

SNEAK PREVIEW: Next-Generation iPhone OS 4.0

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iPad

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iPad Test Drive

HANDS-ON
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Photograph by Peter Belanger

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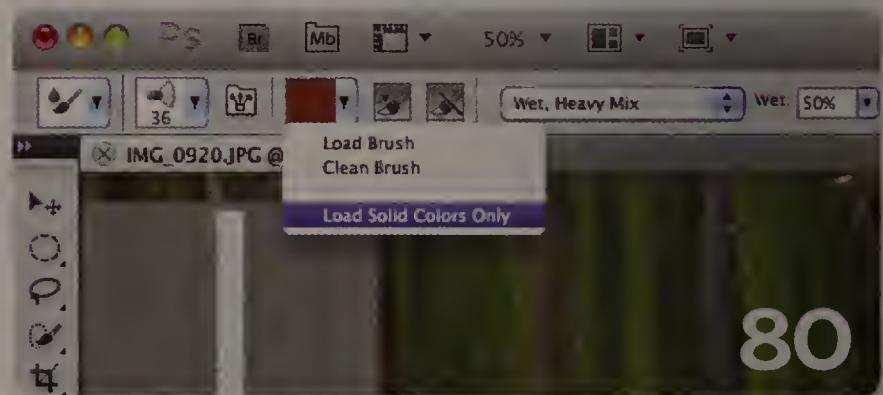
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Apple Takes On the World

The not-so-hidden agendas behind iPhone OS 4.0

Apple's introduction of iPhone OS 4.0 was not your typical new-product event. Yes, the new smartphone operating system was the reason Apple invited the crowd to the company's Cupertino campus, and the new OS (which runs the iPhone, iPod touch, and iPad) looks promising. But there was more to it than that.

iPhone versus Android

As Google's open-source Android operating system has gained market share recently, iPhone OS has come under fire for not offering some of the features that Android does.

One of those features is multitasking. The average phone consumer might not care about multitasking per se. But I'd bet that same consumer would like to play music from Pandora at the same time they're browsing the Web or checking messages in Mail. So iPhone OS 4.0 can do a kind of multitasking.

Apple has also been criticized for acting as gatekeeper of the App Store, deciding which apps will and won't be sold. Android Market allows third-party developers to post their applications without prior approval. At the iPhone 4.0 event, Jobs said that Apple's policy isn't going to change.

I think Apple would rather be seen as a heavy-handed arbiter than as the purveyor of a product that runs bad stuff. Losing control of the App Store would be tantamount to losing control of the iPhone end-user experience. And if you haven't noticed, Apple does not like to give up control.

Apple versus Google

Apple lobbed another bomb at Google at the iPhone 4.0 event. The new OS supports iAd, a technology that will allow developers to embed ads in their apps. It's a direct threat to Google and other mobile ad networks.



When the desire to use Apple's products meets distaste for Apple's corporate moves, there's frustration.

Not surprisingly, the iAd announcement was greeted with hysterical predictions about the coming ad-filled-app apocalypse. (Lots of apps already have ads, if you haven't noticed.) But Apple is hoping to leverage the economics of the App Store to revolutionize mobile advertising, in much the same way that Google revolutionized Web advertising.

Apple versus Adobe

Shortly after the iPhone 4.0 event, it was revealed that new iPhone Software Developer Kit guidelines ban applications developed with tools not approved by Apple. That change was seen as a poke in Adobe's eye. Adobe's new CS5 software suite includes the ability to compile iPhone versions of Flash apps.

Apple doesn't want Flash-created apps on the App Store for a simple reason: They could turn the iPhone into just another mobile platform. If developers

can create an app once and then compile it to run on any smartphone, they might stop making native iPhone apps.

That might sound good if you sell Flash development tools. But it's not good if you're a discriminating user or if you own a smartphone platform. Apple wants iPhone apps to feel like they were made just for the iPhone. It doesn't want App X for iPhone to be indistinguishable from App X for Android.

No Surprises

Apple's machinations have prompted some to complain that they're now disillusioned with the company. I think that's absolutely appropriate; I don't necessarily agree with all of Apple's strategic moves myself. But I think I understand them.

Apple is neither a charity nor a public utility. It's a profit-making corporation. Yes, under Jobs's guidance, its mission is to make innovative, exquisitely designed products—but those products must make money.

Much of the criticism of Apple's strategic moves actually stems from the attraction people feel for those products: When the desire to use Apple's products meets distaste for Apple's corporate moves, there's frustration.

Not only can Apple not please everyone, it's not *remotely interested* in doing so. When you're successful, your competitors take notice and react. In the last few years, many companies have been noticing and reacting. As the iPhone 4.0 event showed, Apple's management is moving aggressively to gain competitive advantage. Whether those moves are the right ones remains to be seen. But I don't think there's any mystery as to why Apple's making them.

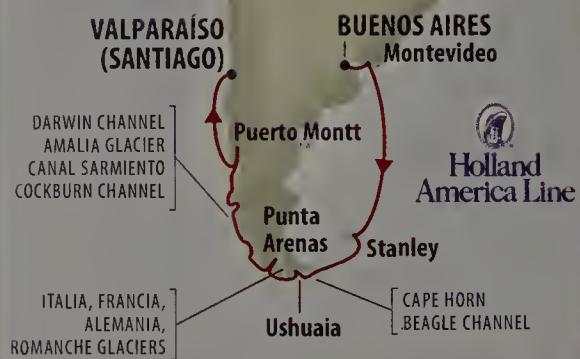
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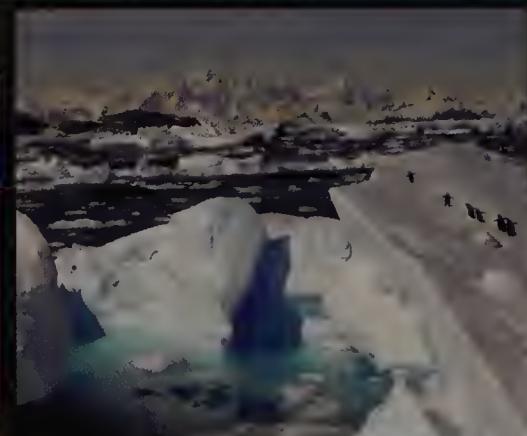
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CONTRIBUTING PHOTOGRAPHER Peter Belanger

DIRECTOR, WEB DESIGN Jason Brightman

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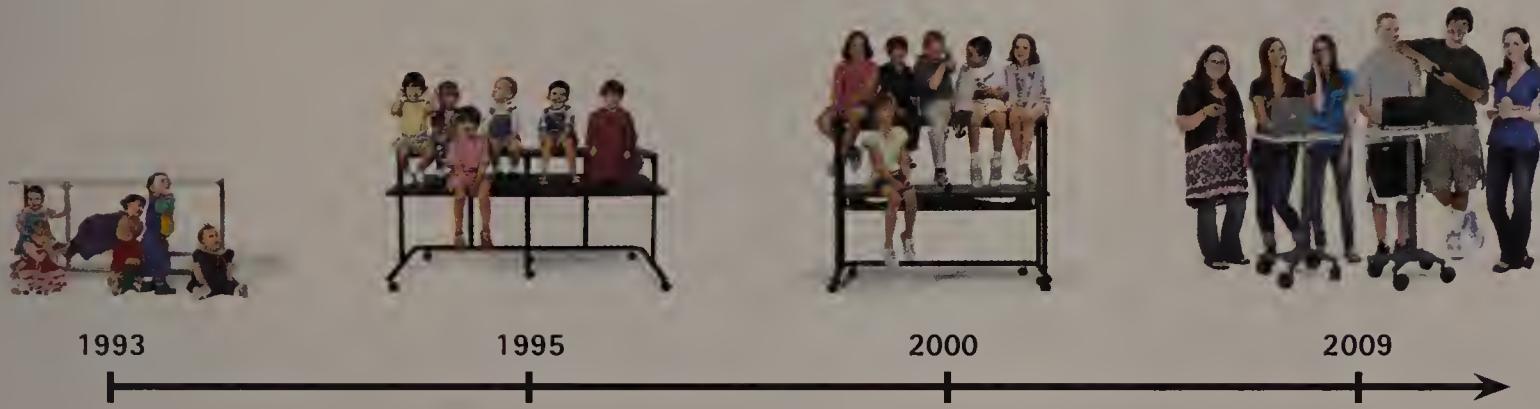
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Google, Windows, and More Thoughts on the iPad

Amid continued iPad excitement, a few other companies managed to get readers' attention, too

Life Is So PC

At some point in life, you may be asked to learn how to drive a stick shift or vice versa—and that pretty much sums up the Mac/PC experience ("Living with Windows," May 2010). I marvel at how Windows has become such a popular software program. I have tried to like PCs and tried to see something about the programming that is unique, interesting, and forward thinking, but I cannot. I find the PC in reverse, in the wrong gear, and curiously popular.

✉ **Anonymous**

I love the headline "Living with Windows." It's similar to "Living with Cockroach Infestation" or something.

✉ **mattwolfmatt**

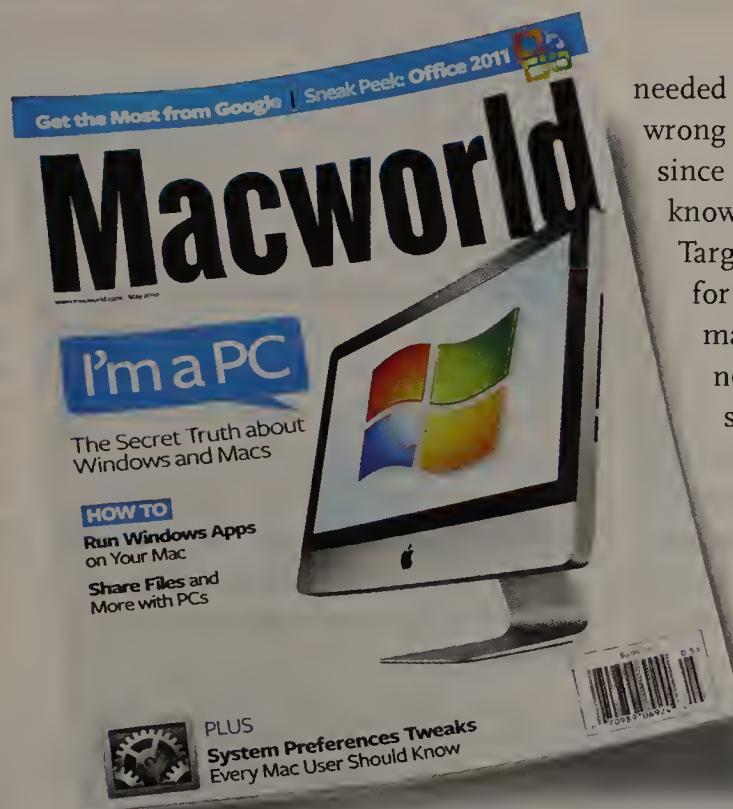
Apple, Google, and Freedom

Apple limits freedom just because it doesn't want to sell apps with sexual themes? Last I could tell, people were still free to use their iPhone browsers, e-mail, and so on, to explore whatever they wanted. And the most ridiculous idea is that Google somehow is better than Apple—the same Google that agreed to go along with Internet censorship in China for many years.

✉ **Barry Gumbiner**

More on the iPad

Now that I have had some time to read review after review of the iPad, I find myself asking what I would use this device for? I think I will wait on the iPad because I want to see its technology incorporated in a remodeled MacBook Air, which to me is in dire need of a fresher look and feel. The merger of the



iPad's touch interface with the Air's light design is something I would love to see, and if Apple makes a push to have a product like that at a price point similar to the Air when it first appeared, that would make for an impressive product.

✉ **Frederick Lawson**

I am as excited about the iPad as I was the iPhone. I think the iPad will change the way we compute at home and work, so I can understand why so many computer companies are worried. They need to downplay or outright dismiss the iPad altogether for the sake of their businesses. I can't wait to see what future generations of the iPad will bring. I am 58 years old and nearing the end of my computer experiences, but I think that the best is still yet to come.

✉ **Michael Eaves**

I will possibly buy an iPad within a year or two, in the hope that it will be what is

needed for a senior like me on the wrong side of 70. I've been angry ever since my three-year-old iPod died. A knowledgeable clerk at my local

Target told me that's about average for iPod lifespans. What makes me mad is not only having to buy a new iPod, but also having to spend an extra \$150 to upgrade my iMac's operating system.

I'm somewhat of an angry technophobe! It seems the entire computer industry is practicing planned obsolescence, like the auto industry was doing 50 years ago with yearly radical changes and poor reliability, just to keep selling new cars. I'm hoping that the new iPads will be built to last without our having to constantly spend time and money to upgrade!

✉ **Walt Breville**

Think Ink

Your article makes no mention of the biggest way to save money when printing, and that is by actually controlling the amount of ink being used when printing ("Simple Ways to Save When You Print," *Working Mac*, April 2010). Most documents, instead of being printed with Normal ink level settings, will be absolutely fine if printed using a Fast Normal or Fast Draft setting instead—selectable in the program's printing options under Paper Type/Quality. We've employed this technique in our workplace, and even though we still go through a ton of ink, we've used about a third less over the course of a couple months.

✉ **Adam Caruso**

One tip I use all the time is to play with the Scale number in the Safari print preview box. This resizes the print preview live, so you can see if you can get the important parts of your printout on fewer pages. Then you can tell Safari to print only the necessary pages, as the article suggests. I find this easier than canceling out of the print dialog box, resizing the browser text, and then going through the print process again.

✉ **urbanplanner**

Mapping Our Way

The AT&T navigation app relies on being able to be in continuous contact with the AT&T system ("Apps with Maps," April 2010). Most iPhone users know that this is the Achilles' heel of the iPhone. In a critical moment of driving in a strange locale, the last thing you would want is to lose your AT&T connection. Also, there are currently at least two states that ban windshield suction cups of any kind. That leaves the iPhone user to rely on some

OVERHEARD ON THE FORUMS

[The iPad] is a first-generation product. I think to keep the price in line with current technology, a few things had to be omitted. I think we will get a camera next January, and hopefully AMOLED.

macforlife
macworld.com/6010

The advantage that Apple has is that with the iPad, they'll have developers writing apps really designed to use it, which Windows 7 lacks.

KPOM
macworld.com/6011



other type of dashboard mount, such as a vent mount or a sticky surface adhesive.

✉ **Bob Birnberg**

I often travel on business and prefer to enter my destinations in the city I'm traveling to before I leave home. I want to check the driving time between those destinations while I'm still at home.

TomTom lets me do this through a

feature called Advance Planning. MotionX Drive does not—it only lets me route from home to each of those cities, which is not at all helpful to me. I don't know how the others GPS apps compare on this, but it's an important consideration for those of us who often fly to other cities and need to drive around those cities.

✉ **walkerbob**

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Hidden and Lost Uses

Using ⌘-Up Arrow to open the parent folder and ⌘-Control-Up Arrow to open the parent folder in a new window is useful ("4 Unexpected Uses for the Control Key," *Working Mac*, April 2010). What was even more useful, before Apple removed it, was the ability to open the parent folder in a new window and simultaneously close the current folder's window. Using ⌘-Up Arrow shows the parent folder's contents in the current window, which is, like your title says, unexpected. Unfortunately, my windows are carefully sized and positioned, and so that behavior alters my careful placement. Apple, how about bringing back the previous intuitive functionality, regardless of the keystroke?

— Paul Palm

Taking the iPhone OS to Task

Apple's neglect of tasks and notes in MobileMe and on the iPhone is just plain strange ("Syncing iCal Tasks to Your iPhone," *iPhone Central*, April 2010). They

are such simple apps compared to Mail and iCal, yet users are left scrambling to find decent third-party Web, desktop, and iPhone apps for basic info management functions. Even the Newton had a task application. Can't Apple dust it off?

— raccoon tail

Original Photo Attachment

I would think long and hard before shipping the originals of my photos through any carrier ("Outsource Your Scanning Projects," *Digital Photo*, April 2010). Though it's happened rarely, I've had stuff get lost even with the carriers who are supposed to scan the package at every stop. I can certainly see the value of these scanning services, though—especially when the time it would take to scan all my photos is at a premium.

— davekriss93

Considering the number of photos most people would need scanned (years' worth of predigital photos), it would be much

cheaper to buy a decent scanner and do the job yourself. Most scanners of good quality can be had for under \$200, which includes a transparency adapter to scan slides and negatives. For one, you save money. Two, although you would have to spend time to do it yourself, you gain the experience and satisfaction of accomplishing something on your own. Last but not least, you are in full control of your photos.

— Eric 72

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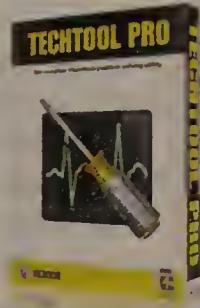


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Mac Hacked—Again

Security experts convene at Pwn2Own to see how fast they can crack Macs and iPhones

BY LEX FRIEDMAN

In February, Aaron Portnoy made a bold prediction: Apple's Safari would be the first browser to fall at this year's Pwn2Own hacking challenge. As it turned out, when the contest was finally held in March, Safari got hacked *twice*: once on a Mac, and then again on an iPhone.

Crack the Mac

The Pwn2Own contest is held as part of the annual CanSecWest security conference, which attracts security experts from all over the world. Contestants vie to exploit and compromise fully patched systems; whoever does so fastest gets to keep the hacked hardware (along with some serious cash) as a prize.

This year's winner was Charlie Miller, an analyst at Independent Security Evaluators. It wasn't his first win: In 2009 he successfully hijacked a MacBook in less than five minutes, and in 2008 he hacked a MacBook Air in less than two minutes. (Don't attach too much significance to those times, though: Pwn2Own participants spend weeks or months ahead of time



Safari wasn't the only browser to be fooled. In addition to attempting to crack Apple's browser, running on Mac OS X 10.6, researchers also took on the latest versions of Chrome, Firefox, and Internet Explorer 8 (IE) running on Windows 7. (The operating systems were

all configured with their default security settings.) The hackers eventually succeeded in attacking IE and Firefox; only Chrome emerged unscathed.

Foiling the iPhone

The iPhone, meanwhile, was felled by Vincenzo Iozzo, from Zynamics, and Ralf Philipp Weinmann, from the University of Luxembourg. Their hack also started with a Website containing malicious code. Their attack on the iPhone's mobile Safari browser gave them access to the phone and had it send the contents of an SMS message database to a Web server.

According to Charlie Miller (who's actually best known for his mobile expertise), it was the first successful attack on an iPhone since Apple released version 2.0 of the iPhone OS in 2008; nobody cracked Apple's smartphone at last year's contest. Apple introduced a number of advanced security measures with iPhone 2.0, including a "sandbox" in the device's kernel, which restricts what hackers can do on a compromised machine, and a cryptographic code-signing requirement that makes it harder for them to run their initial malicious code.

Weinmann was set to compete in last year's Pwn2Own contest but pulled out

All platforms—even the Mac and the iPhone—are vulnerable to an attacker with sufficient dedication and resources.

preparing their exploits; it's not as if they make them up on the spot.)

In all three cases, Miller cracked the Mac by exploiting bugs in Safari 4.0. While he's keeping the exact mechanics of his attacks secret, he has indicated that he gained command-line access to the Mac by having it visit a specially crafted Website.

all configured with their default security settings.) The hackers eventually succeeded in attacking IE and Firefox; only Chrome emerged unscathed.

In recent years, Windows has actually been getting harder to crack; Pwn2Own contestants say its defensive technologies are more robust than OS X's. For example, Windows has had one defen-

at the last minute when he discovered that his attack worked only on jailbroken iPhones. Jailbreaking circumvents the iPhone's memory protections, but Pwn2Own rules require contestants to use unmodified phones.

To make their attack work, Weinmann and Iozzo used a technique called *return-oriented programming*, in which they essentially cobbled together instructions from different parts of the iPhone's memory. But even when they used this technique, the iPhone's sandbox restricted what they could do once they had hacked into the machine.

What It All Means

So what do all these exploits mean to you, the average Mac or iPhone user?

On a practical level, it means that you need to be doubly vigilant about keeping your software—especially your browser—up to date. Both Mozilla and Apple recently released updates to their respective browsers.

Just days before Pwn2Own began, Mozilla patched Firefox to fix a critical bug in a font decompression routine that could be used to crash a victim's browser and execute arbitrary code on the system.

Mozilla had been under pressure to fix the bug, after it was included by Russian security researcher Evgeny Legerov last month in his VulnDisco hacking tool, which is sold to network admins trying to gauge the security of their systems. The flaw affects Firefox 3.6, but not earlier versions of the browser, Mozilla said.

Meanwhile, Apple also recently released Safari 4.0.5, which, while offering some performance and stability improvements, also includes some security fixes, addressing vulnerabilities with ColorSync, ImageIO, PubSub, Safari's URL handling, and WebKit.

Web browsers have become the Achilles' heel of security, regardless of the hardware or software platform they're running on. Exploitable software bugs are still extremely common, despite efforts by Microsoft, Mozilla, Apple, and others to lock them out. But the key lesson to take away from the Pwn2Own contest is that all platforms—even the Mac and the iPhone—are vulnerable to an attacker with sufficient dedication and resources.

Lex Friedman writes about technology at blog.lexfriedman.com. **Robert McMillan** and **Tom Bradley** contributed to this report.

Apple Number One in Tech Support

Whenever I've called Apple's tech support, I've always found the people at the other end of the line efficient and courteous. Apparently, I'm not the only one who feels that way.

In a recent *Consumer Reports* survey focusing on four aspects of customer service for computers—problem solved, phone wait time, and the quality of phone and online support staffs—*Consumer Reports* subscribers gave Apple the highest marks among the top computer vendors for both laptop and desktop tech support. Apple was the only company to earn top scores in all four categories.

For laptop tech support, Apple scored 86 out of a possible 100 points; it was followed by Lenovo, Toshiba, Dell, HP/Compaq, and Acer/Gateway/eMachines (in that order). Desktop owners gave Apple 87 points out of 100; Dell, HP/Compaq, and Acer/Gateway/eMachines followed (again, in that order).

Apple's numbers are slightly up from those of 2009: Last year, the company scored 81 for desktops and 84 for laptops. Those other vendors scored about the same this year as they did last year, with the exception of Gateway: Its customer-service ratings dropped precipitously following its merger with Acer and eMachines.—**NICHOLAS BONSACK**



Now Software Out of Time

BY PHILIP MICHAELS

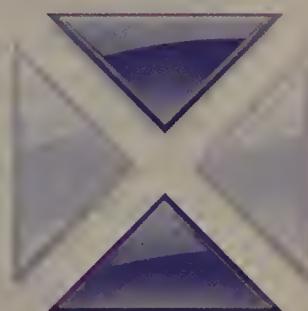
Now Software appears to be nevermore. In a letter posted to its Website (www.nowsoftware.com), co-owner and president John Wallace recently announced that the Mac software company was suspending day-to-day operations.

The announcement came just seven months after the company released Now X (macworld.com/6007), its long-awaited successor to Now Up-to-Date and Contact calendar and contact-management applications. Wallace cited the time and expense required to bring Now X (previously code-named "Night-Hawk") to market as one reason for the company's demise.

The original Now Software (which made cross-platform personal productivity software) was bought by Qualcomm in 1997. Power On Software bought the rights to those products in 1999, and changed its name to Now four years later.

The company first previewed Now X at the 2007 Macworld Expo. The new version represented an effort to revamp Now Up-to-Date's aging code base. Delays in that effort pushed the release of Now X to 2009; when it was finally released, the application was criticized (macworld.com/5876) for being slow and buggy.

Wallace has set up a Website (macworld.com/6008) to provide product support and to answer questions from existing customers. The rest of Now Software's staff has been released, and Wallace says that he's working with courts and the company's creditors to resolve outstanding issues.



Jobs Opens Up on Health

And repercussions over his leave of absence linger

BY SERENITY CALDWELL

While Washington was debating the merits of the recently passed health care reform bill, Apple CEO Steve Jobs made a rare public appearance to champion his own health cause: organ donation. He appeared with California Governor Arnold Schwarzenegger at a press conference at Stanford University to publicize Schwarzenegger's proposal to expand the state's organ-donor list.

Jobs spoke briefly about his experience of being on the transplant waiting list last year. "There were simply not enough livers in California to go around...My doctors advised me to enroll in a transplant program in Memphis," where the supply-demand ratio would be more favorable, he said.

According to Jobs, more than 3400 people in the Golden State needed organ transplants in 2009, but only 671 transplants took place, and 400 people died while waiting.

Cook Rewarded

Of course, Apple didn't shut down during Jobs's leave of absence. COO Tim Cook is widely credited with keeping the company on course while his boss was gone. In a recent regulatory filing, the company revealed just how grateful it was for that service: Cook was awarded a bonus package worth \$22 million—about \$3.6 million a month while he filled in for Jobs. Jobs is said to have nominated Cook for the bonus himself. Clearly, the board took that nomination pretty seriously.

However, Apple's directors aren't always so supportive. The *Wall Street Journal* has reported that board member Jerome York (who recently passed away) was unhappy with the way Jobs handled his health problems.

In a 2009 interview with the *Journal*—excerpts of which were published only after York's death—the director said Jobs

should have publicly disclosed his health issues when he backed out of his keynote address at 2009's Macworld Expo. York also said that he came close to resigning when given full details about Jobs's health. The only reason he didn't was to avoid the uproar that would have ensued.

With York's passing, Apple's board has only five directors aside from Jobs: J. Crew Chairman and CEO Mickey Drexler; Intuit Chairman (and former Apple executive) Bill Campbell; Genentech Chairman Arthur Levinson; Avon Chairman and CEO Andrea Jung; and former U.S. Vice President Al Gore.



Tim Cook Apple's COO was rewarded for service during Steve Jobs's leave of absence.

Macs: Current Lineup

PRODUCT	SPECS	RATING	PRICE	DISPLAY	SPEED-MARK 6 ^A	FIND CODE ^B
DESKTOP						
iMac	Intel Core 2 Duo/3.06GHz (nVidia GeForce 9400M) Intel Core 2 Duo/3.06GHz (ATI Radeon HD 4670) Intel Core 2 Duo/3.06GHz Intel Core i5/2.66GHz	4 1/2	\$1199 \$1499 \$1699 \$1999	21.5 inches 21.5 inches 27 inches 27 inches	148 164 162 209	5510 5509 5508 5511
Mac Mini	Intel Core 2 Duo/2.26GHz, with 160GB hard drive (late 2009) Intel Core 2 Duo/2.53GHz, with 320GB hard drive (late 2009)	4 1/2	\$599 \$799	not included not included	104 118	5507 5506
Mac Pro	Intel Xeon/quad-core 2.66GHz Intel Xeon/two quad-core 2.26GHz	4 1/2	\$2499 \$3299	not included not included	348 343	4488 4503
PORTABLE						
MacBook	Intel Core 2 Duo/2.26GHz (white)	4 1/2	\$999	13 inches	111	5505
MacBook Air	Intel Core 2 Duo/1.86GHz Intel Core 2 Duo/2.13GHz	4 1/2	\$1499 \$1799	13 inches 13 inches	156 175	4953 4954
MacBook Pro	Intel Core 2 Duo/2.4GHz Intel Core 2 Duo/2.53GHz Intel Core 2 Duo/2.53GHz Intel Core 2 Duo/2.66GHz Intel Core 2 Duo/2.8GHz	4 1/2	\$1199 \$1499 \$1699 \$1999 \$2299	13 inches 13 inches 15 inches 15 inches 17 inches	213 239 237 242 260	4947 4948 4949 4950 4951

^A Speedmark 6 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.6 (Snow Leopard). For more information on Speedmark testing, go to macworld.com/5503. ^B In a browser's address field, typing in a find code after macworld.com/ takes you to a product's review or overview.

Apple Updates Snow Leopard

Improved crash reporting; fixes for AirPort, Mail, Time Machine

BY DAN MOREN

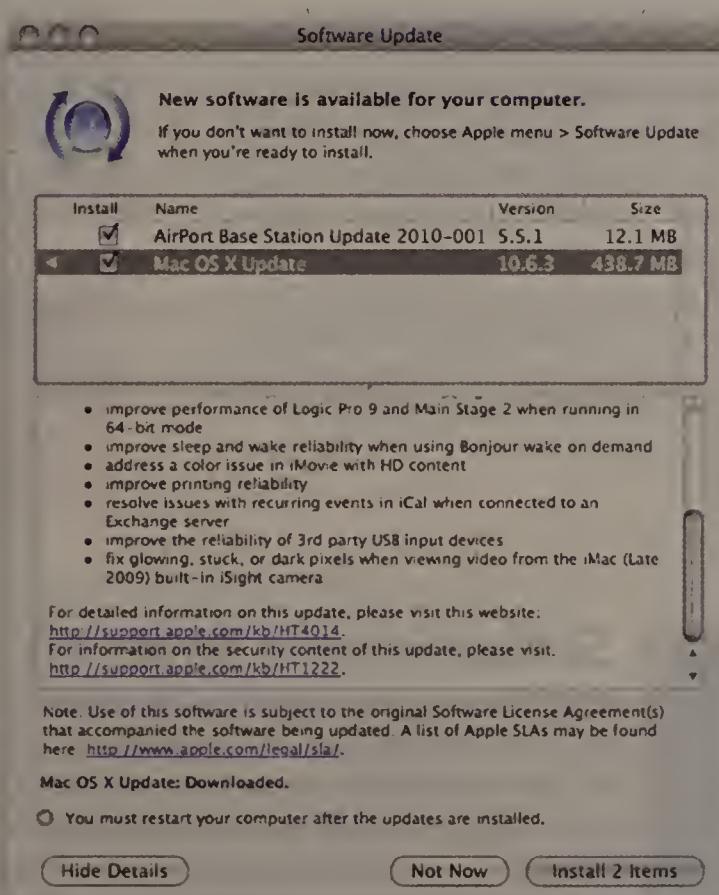
In case you've been ignoring the insistent Software Update window for the past month or so, you should know that Apple recently released Mac OS X 10.6.3, the latest version of Snow Leopard. The update includes fixes and improvements big and small, addressing issues ranging from the reporting of system failures to the rules for daylight saving time in Antarctica.

The biggest change is probably OS X's new ability to automatically send diagnostic and usage information to Apple when certain system events—such as force-quitting programs and kernel panics—happen. It's an extension of Apple's current system for submitting information when apps crash. Those reports won't be sent without your explicit consent, and Apple says that the reports are completely anonymous.

Other improvements are scattered liberally throughout the OS. Updated systems include AirPort (general reliability); File Services (fixes for copying, renaming, and deleting files on SMB servers); iCal (three bugs fixed relating to meeting invitations and Microsoft Exchange); Mail (fixes for background colors displaying incorrectly and more problems with Microsoft Exchange); MobileMe (improved iDisk syncing, better calendar syncing); QuickTime X (improved reliability and compatibility); and Time Machine (more-reliable Time Machine-to-Time Capsule backups and performance over AirPort connections).

In addition to all the fixes and feature enhancements, 10.6.3 also patches some security holes, especially in AFP Server, the application firewall, CoreAudio, Disk Image, QuickTime, and other system services. Several of those fixes were credited to Tipping Point's Zero Day Initiative—sponsor of the Pwn2Own contest, at which a Mac was recently hacked (see "Mac Hacked—Again," page 14). The winner of that contest offered to show Apple how he found the vulnerabilities that he exploited to gain control of a Mac; it's unclear whether or not those particular holes were patched in this latest update.

Both the Mac OS X 10.6.3 and Mac OS X Server 10.6.3 updates are available via Software Update or from Apple's download site (www.apple.com/downloads).



Mac OS X Update The latest update to Snow Leopard includes a gallimaufry of feature fixes and security patches.



Home Inventory

Home inventory management software for your Mac.

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Items, insurance, values, collections, locations, conditions, and more



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MACWORLD10 for 10% off your order.

MAC GEMS

Discover Great, Low-Cost
Mac Products **By Dan Frakes**

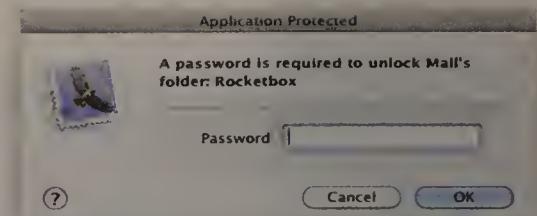
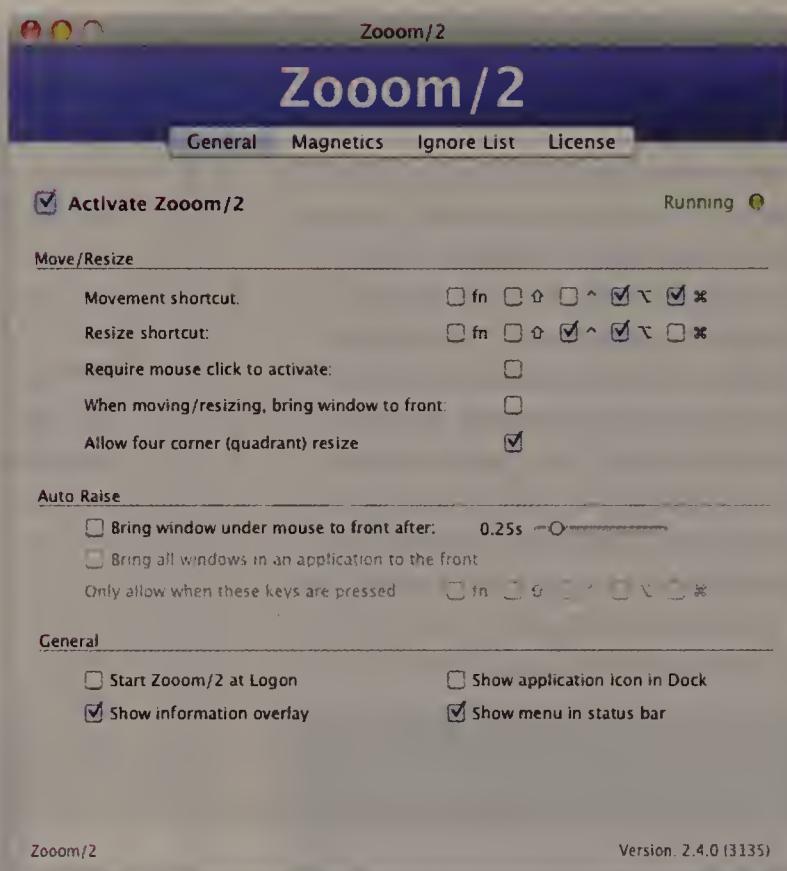
Zoom 2.4

UTILITIES Like one of my all-time favorite Gems, MondoMouse, Zoom lets you move any window by holding down your choice of modifier keys (I use **⌘-Option**) when the cursor is anywhere over that window; the window gracefully follows your cursor. You can resize the window by holding down a different set of modifier keys (I use **Control-Option**); the window's nearest two edges grow or shrink as you move the cursor. These features work even if the window in question is behind other windows, which means it's easy to resize or move background windows without bringing them forward. Besides being convenient, this functionality is also an ergonomic boon, as it dramatically reduces how often you must make the precise cursor movements necessary to grab a window's title bar or resize handle.

Zoom adds a few unique features, too, the most significant being **Magnetics**, which lets you "snap" windows up against other objects—including windows, the sides of the screen, the bottom of the menu bar, the edge of the Dock, and positions on a virtual grid. With **Magnetics** enabled, as you move or resize a window, the edge of the window pauses whenever it hits one of these virtual edges, making it easier to quickly position windows in convenient locations. (You can choose to show these edges during move and resize actions; I recommend doing so, because it makes **Magnetics** easier to use.)

Zoom is an excellent alternative to MondoMouse. Just be sure to read my full review, at the URL below, for compatibility information.

4.5; \$20; CodeRage; macworld.com/5971



Espionage 2.6.1

SECURITY Mac OS X's FileVault security feature encrypts your entire user folder, making it overkill if all you want is to protect a subset of your data. A more-focused option is Espionage, which lets you create smaller encrypted disk images for particular types of data. It also performs a bit of Finder trickery to give you the illusion that you're interacting directly with a protected folder. Simply double-click a protected folder and provide that folder's password, and the folder's contents appear. But Espionage's most compelling feature is that it can automatically encrypt application-specific support data. Espionage comes with 26 application templates, including templates for Address Book and Mail; you can also manually configure an application for data encryption.

4.5; \$30; Tao Effect;
macworld.com/5972

Go to Weblog

Read Mac Gems online (macworld.com/macgems) for longer reviews of these and other products.



Status Screen Saver 1.4

UTILITIES Screensavers are no longer necessary, but they can still be useful. Status Screen Saver lets you enjoy idle-time eye candy while still keeping tabs on communications and other info. You choose any other screensaver as your visual, and then choose one or more types of data to monitor: Adium, iCal, iChat, Google Notifier, Mail, NetNewsWire, Skype, Things, Twitterrific, or Vienna status; or battery level, uptime, or clock time. Each item's icon, along with a numeric status display, appears at the bottom of the screensaver.

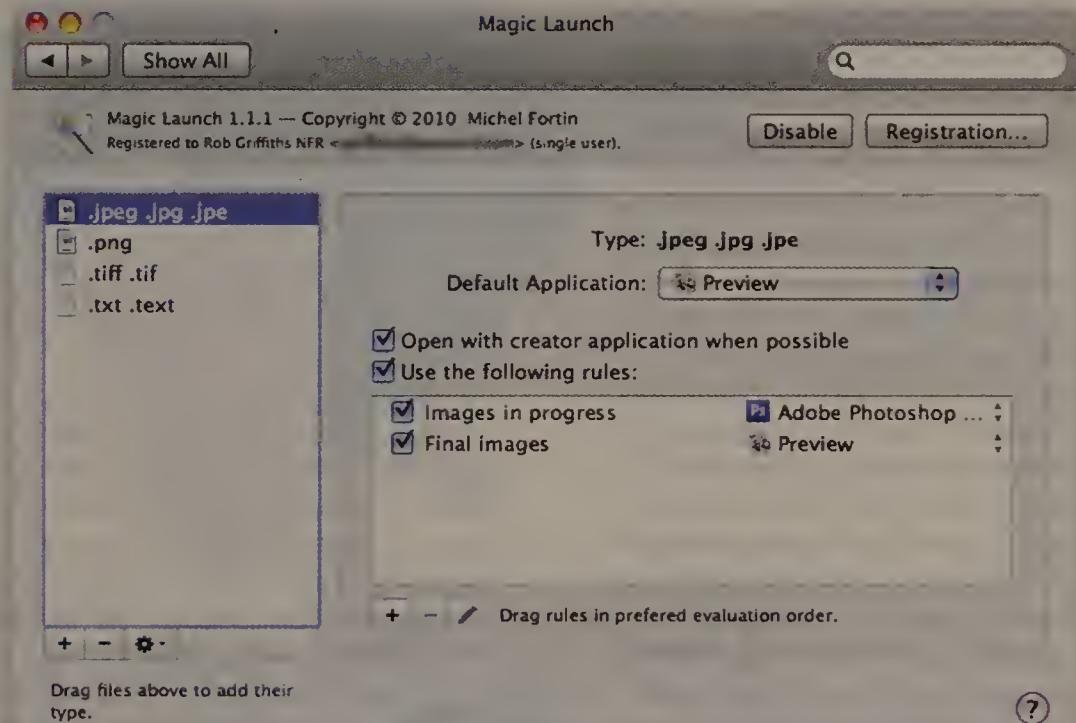
4.5; payment requested; Logan Rockmore Design; macworld.com/5973

Magic Launch 1.1.1

UTILITIES Due to some controversial changes in Snow Leopard (Mac OS X 10.6), legacy Mac OS creator codes—metadata stored with many files—are no longer used to determine which program opens a file when you double-click it. (You can read more about this issue at macworld.com/5743.) We previously covered one solution, LaunchCodes (3 1/2; macworld.com/5742), but Magic Launch is even better. Whenever you double-click a document, this System Preferences pane routes the document to the program of your choosing. You add document-application associations to Magic Launch either by typing file extensions or by dragging and dropping files into Magic Launch's list.

For many users, these basic settings will suffice for regaining OS X 10.5-style document-application associations. The real power of Magic Launch, though, comes from rules you can create; for example, you can force documents with a common file type—say, .jpg—to open in different applications, depending on criteria you establish. I have Magic Launch configured so .jpg files with the Finder's red label open in Photoshop but those with a green label open in Preview; thus I can easily change which application opens my images by simply changing their Finder labels.—ROB GRIFFITHS

3 1/2; \$14; Michel Fortin; macworld.com/5974



PROMISING PROSPECT

SecondBar

0.00965

UTILITIES A multiple-monitor setup can significantly improve your productivity, but it also presents a few challenges, the most notable being menu access. Because Mac OS X allows the menu bar to exist only on the primary display, when you're working on a second display you must mouse all the way back over to the main display to access system and program menus.

Andreas Hegenberg's SecondBar (free; macworld.com/5975), still in early development, puts your menu bar on *both* displays, and provides some useful keyboard and mouse-button shortcuts for quickly moving windows between displays and for resizing windows to the left or right half of a screen.

SecondBar does have some glitches, but it's a promising prospect for those of us who've been looking for a way to get our menu bar on both of our displays.

ScriptSaver 2.12

UTILITIES Another useful screensaver is ScriptSaver. Instead of just displaying visuals, however, it also runs AppleScripts of your choosing—one when the screensaver activates, the other when the screensaver deactivates. For example, you could create a script that logs out the current user, and then set that script to run whenever the screensaver activates, making ScriptSaver a simple way to automatically log out after a period of inactivity—great for, say, lab environments or to add another layer of security to your Mac.

If you want visuals, ScriptSaver lets you choose another installed screensaver for that purpose. For example, you could choose Status Screen Saver (see page 18); amusingly, if you do this, you're actually running three screensaver modules together: ScriptSaver runs Status Screen Saver, which runs the screensaver you've chosen for your visuals!

3 1/2; free; Matt Swann; macworld.com/5973

ScriptSaver 2.10 Copyright 2008 Matthew M. Swann

swannmat@mac.com

Activation Script

Choose an AppleScript to execute when ScriptSaver activates, or leave the location blank to perform no action.

Location: /Users/frakes/Library/Scripts/PlayTut [Choose...](#)

Run asynchronously

Screen Saver

Choose a screen saver to display after launching the AppleScript.

Spectrum

Deactivation Script

Choose an AppleScript to execute when ScriptSaver deactivates, or leave the location blank to perform no action.

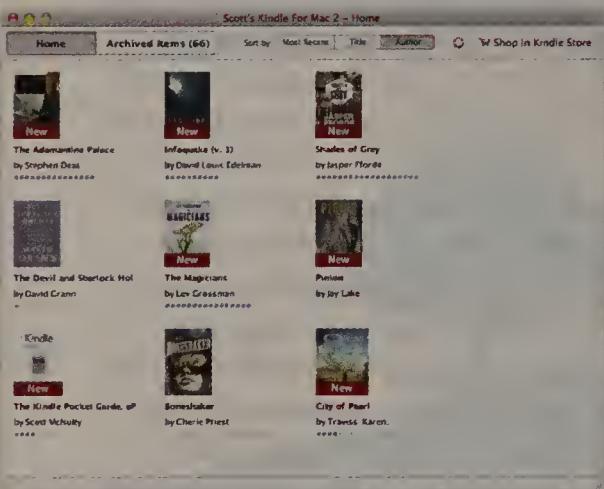
Location: /Users/frakes/Library/Scripts/PauseT [Choose...](#)

OK



HOT STUFF

What We're Raving about This Month



Kindle for Mac

After months of anticipation, Amazon has released a beta of Kindle for Mac, the latest version of its software that lets you read Kindle e-books without the need for any special hardware (say, a Kindle). The free app for OS X 10.5 and later is available now in more than 100 countries, and joins the ranks of Kindle for iPhone, Kindle for PC, and Kindle for BlackBerry. As with other Kindle products, the Kindle for Mac app uses Amazon's Whispersync technology to synchronize your bookmarks and current place in your book across all supported devices. However, Kindle for Mac is in beta, and at the moment it doesn't support full text search, highlighting, or the creating and editing of notes (though it will display notes and highlighting you've already made in your e-book elsewhere). Amazon promises these features in a future update (www.amazon.com/gp/kindle/mac).—SCOTT MCNULTY

Titan XS for Mac

One reason many people stop backing up their Macs when they hit the road is that they don't want to lug around an external hard drive. That excuse is now lamer than ever, thanks to Verbatim's Titan XS. Billed as one of the world's smallest 2.5-inch portable hard drives, the Titan XS is only 4.3 by 3.1 by 0.5 inches and weighs just 5.5 ounces. Available in HFS Plus-formatted 320GB, 500GB, and 640GB capacities for \$99, \$129, and \$149, respectively, each drive gets all the power it needs from your MacBook's USB port and includes a seven-year warranty and 5GB of Norton Online Backup storage (verbatim.com).—DAN FRAKES



Alfred

The latest contender in the application-launcher game, Alfred allows you to open applications and search the Web with a few keystrokes. Once you assign the utility a hotkey combination, pressing those keys will summon Alfred's query window. Type in the first letters of an application's name—or a keyword to initiate a search at Amazon, IMDB, or another search site—and Alfred will make it so. Alfred returns results in a drop-down list. If what you want is at the top, just press Enter. If it's further down the list, press the handy key combination Alfred assigns to each result. Alfred is in beta testing. To get in on it, sign up with your e-mail address, and the Alfred team will send you a download link. It requires Mac OS X 10.5 or later (www.alfredapp.com).—SCOTT MCNULTY



TextExpander 3

SmileOnMyMac's \$35 TextExpander 3 makes the venerable macro utility even better. It adds a keyboard-accessible snippet creation window; a search box; one-click sync options for MobileMe and Dropbox; the ability to sync with TextExpander touch for iPod and iPhone; and fill-in snippets—after expanding a snippet, you can fill in blanks with custom information. TextExpander is now a stand-alone app instead of a preference pane in System Preferences. Upgrades are \$15; if you purchased the app after October 2009, you can upgrade to version 3 for free (www.smileonmymac.com).—DAVID CHARTIER



8-BIT HANGER

If your office is replete with iPhone-app coasters, Finder-icon pillows, and Clarus the Dogcow wall prints, why break up the decor with a nondescript hook on the wall? Meninos's \$20 8-bit Hanger is a traditional wall hook—for clothes or whatever else you want to hang—fashioned in the style of an 8-bit, finger-pointer cursor. Made of acrylic and fiberboard, this 8-by-7-by-1.5-inch finger hook has a permanently attached screw for securing it to the nearest wall stud. The next time a visitor needs a place to hang their wet jacket, you can politely offer them the finger (www.meninos.us).—DAN FRAKES



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*Michael Fetters
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*"I can't work on a Mac
without TextExpander!"*

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Mac user



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The iPhone Becomes a Multitasker

The ability to run more than one program at once highlights iPhone 4.0 changes

BY JASON SNELL

Apple's preview of the forthcoming iPhone OS 4.0 update—due out in the summer for the iPhone and iPod touch and later in the fall for the iPad—focused on seven major features. But the spotlight centered on only one major addition to the mobile operating system—multitasking.

This long-awaited feature will finally arrive with iPhone OS 4.0, but it's a much more subtle and careful implementation than most users might expect. Apple is achieving the appearance of multitasking—the ability to run more than one program at a time—through a combination of app-switching features and background processes managed by the operating system itself.

Context Switching

Sometimes a user needs to use several apps to perform a task—for example, switching among Mail, Safari, and Notes



while researching a memo. That's not something the iPhone handles well. You have to press the Home button, find the

next app among your Home screens, launch the new app and navigate to where you want it to be, and then repeat the process to switch back.

So the multitasking coming with iPhone OS 4.0 is actually just smarter app switching. When you double-press the Home button, a window raises up from the bottom of the screen, Dock-like, with a list of all the apps you've recently used. When you tap one of those apps, it launches—allowing quick switching without going back to the Home screen.

Apple pairs this capability with a new set of tools that let developers create apps that do something other than open and quit (which is all they can do right now). Apps will soon be able to be "frozen"—Apple senior vice president Scott Forstall said that they're kept in "a quiescent state in the background." The key to this state is that it allows apps to pick up right where you left them. While it's not true multitasking, this implementation will satisfy the needs of

What to Look for in iPhone 4.0

Multitasking leads the changes in iPhone 4.0, but it's not the only feature you need to know about. Here are a few others among the 100 or so additions aimed at end users in the next iPhone OS update.—**DAN MOREN**

Folders To help you manage all the apps you've got on your iPhone or iPod touch, this feature lets you drag one app on top of another to automatically create a folder.

Mail From a unified inbox that allows you to see incoming mail from multiple accounts to support for more than one Exchange account at a time, Mail undergoes a major overhaul in iPhone 4.0. You can also tap files attached to e-mail messages to open them in a separate application, including third-party apps.

iBooks The iPad's e-reader app makes its way to the iPhone and iPod touch.

Enterprise Features Among the changes aimed at business users are the ability to encrypt all e-mail with your PIN code, improvements for mobile device management, and the aforementioned support for multiple Exchange accounts as well as Exchange Server 2010.

Game Center This social gaming network will let you participate in online matchmaking, compete in leaderboards, and earn achievements.

people who need to quickly switch between apps without losing their place.

Background Tasks

But sometimes you really do need an app to do something when it's not in the foreground. And so Apple is providing several other tools to developers to go with the already-in-place push notifications that let apps perform tasks in the background.

A background audio service allows apps that provide audio, such as Pandora and MLB At Bat, to keep playing while the user switches to another app. Another supported background task is Voice over IP (VoIP); this means that apps such as Skype will be able to keep their connection alive when a user switches to another app, allowing conversations to continue—and allowing incoming calls to still be received, as well.

Right now, GPS apps and social-networking apps with place-based features only know where you are when you open them. With iPhone 4.0, GPS apps will

be able to keep the GPS receiver in your device active and track your location even when closed. Social-networking apps won't have access to the GPS data, due to the massive power requirements of using GPS. Instead, Apple has created a system that will notify social-networking apps when the iPhone has switched between cell phone towers, indicating that the user has changed location.

(Users can opt to disable that feature.)

Apple has also added a Local Notifications system. Unlike push notifications, which require an external server to send an event to the phone, these new notifications originate on the phone itself—a TV-guide app that alerts you when a favorite show is about to start, for example.

Task completion, another new multi-tasking addition, solves the problem of not knowing whether it's safe to move to another app because the one you're using is in the middle of something. With task completion, apps can finish what they're doing even when the user switches away.

What's New at the App Store

Take Your Piano Lessons to Go

Wonder Warp Software's Etude (macworld.com/5947) takes a different approach to helping you learn how to play the piano. The \$3 iPhone and iPod touch app combines a database of electronic sheet music with an on-screen keyboard whose keys light up to show you the correct notes to play—in case you're not yet comfortable with reading sheet music.—SERENITY CALDWELL

Say Hi to Hello

Hello (macworld.com/5949), a simple messaging app for the iPhone and iPod touch, sports an interface much like the iPhone's built-in SMS app. But Hello skips screen names in favor of a seven-digit ID that you share with other Hello users. Available in both a free and a \$2 advertising-free version, Hello offers a wide range of fairly standard instant-messaging features, including group chats, blocking, and support for sending pictures.

—NICHOLAS BONSACK

Bump Phones to Send Money with PayPal

The latest update to PayPal's iPhone app (macworld.com/5948) taps into the "bump-to-communicate" technology introduced by fellow iPhone app Bump (macworld.com/5755). With PayPal 2.0.31, you can send money to another person by simply entering an amount and gently "bumping" your iPhone against theirs. The update also offers the ability to use more of PayPal's features (such as requesting and withdrawing money) and a "Split the Check" function that calculates tips, splits a bill, and requests payment from each of your dinner companions for their share.

—MARCO TABINI

iPads and iPhones: Current Lineup

PRODUCT	SPECS	RATING	PRICE ^a	DISPLAY	PERFORMANCE	FIND CODE ^b
iPad	16GB	Wi-Fi, 3G, not yet rated	Wi-Fi, \$499; 3G, \$629	9.7-inch color	Up to 10 hours on Wi-Fi; up to 9 hours on 3G	6000 Wi-Fi 6001 3G
	32GB	Wi-Fi, 3G, not yet rated	Wi-Fi, \$599; 3G, \$729	9.7-inch color	Up to 10 hours on Wi-Fi; up to 9 hours on 3G	6002 Wi-Fi 6003 3G
	64GB	Wi-Fi, 3G, not yet rated	Wi-Fi, \$699; 3G, \$829	9.7-inch color	Up to 10 hours on Wi-Fi; up to 9 hours on 3G	6004 Wi-Fi 6005 3G
iPhone 3G and 3GS	8GB (3G)		\$99	3.5-inch color	6 hours of Wi-Fi Internet; 5 hours of 3G talk time	4184
	16GB (3GS)		\$199	3.5-inch color	9 hours of Wi-Fi Internet; 5 hours of 3G talk time	4955
	32GB (3GS)		\$299	3.5-inch color	9 hours of Wi-Fi Internet; 5 hours of 3G talk time	4956
iPod Touch	8GB		\$199	3.5-inch color	30 hours of music playback; 6 hours of video playback	3864
	32GB		\$299	3.5-inch color	30 hours of music playback; 6 hours of video playback	5257
	64GB		\$399	3.5-inch color	30 hours of music playback; 6 hours of video playback	5258

^aAll prices are Apple's prices. ^bIn a browser's address field, typing in a find code after macworld.com/ takes you to a product's review or overview.

Apple Gives Users the Gift of 'Gift This App' Option

BY DAN MOREN

The App Store was built on the foundations of its predecessor, the iTunes Store, but some features of the latter didn't immediately appear in the former. Take gift giving—you can gift songs to other users, but not apps. To gift an app, you have to buy a gift certificate.

Or at least you used to have to buy one. In March Apple added the ability to gift iPhone, iPod touch, and iPad apps to other users.

To gift an app, just click the triangle next to any app's price and choose Gift This App. That'll bring up a form you can fill out with your name and e-mail address, the recipient's name and e-mail address, and, if you like, a personal message. If you want, you can gift the same app to multiple people by entering several e-mail addresses; you'll be billed the purchase cost of the app per address. You can either have the gifted app sent by e-mail or print out the purchase certificate



yourself, for inclusion in a card or letter.

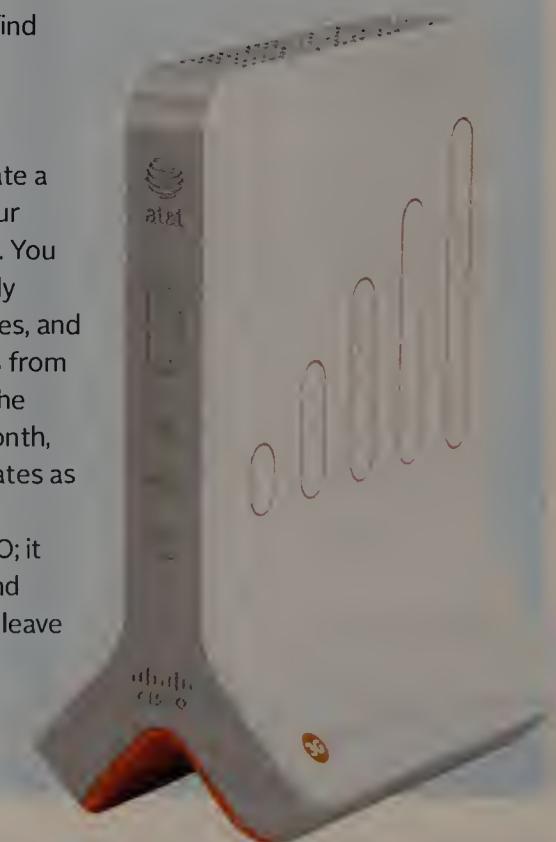
Gifted apps show up in the iTunes Purchase History of the gifter, so if you need to refund one—for example, because you accidentally bought a camera app for your friend's camera-less iPod touch—you can do so just as you would any app you'd bought for yourself.

Banish Network Signal Blues with AT&T MicroCell

If your iPhone drops calls at home, you may find a remedy to the problem in AT&T's MicroCell (macworld.com/6006).

A wireless router for your cell phone, the MicroCell plugs into your network to generate a miniature cell signal that should improve your signal strength and end reception problems. You can also lock down the MicroCell so that only phones you approve—up to ten different lines, and up to four at the same time—can make calls from it. Minutes are deducted from the plans of the phones using the MicroCell. For \$20 per month, you get free domestic calls in the United States as long as you're on your MicroCell.

The MicroCell has downsides: It costs \$150; it requires a broadband Internet connection; and although it lets you start a call on it and then leave your house, it doesn't work the other way around—AT&T's cell towers won't hand off calls to the MicroCell.—DAN MOREN



Ear Piece: Aliph's Jawbone Icon

BY LEX FRIEDMAN

REVIEW The latest in Aliph's line of Bluetooth headsets, the \$100 Jawbone Icon offers a stylish new look—or more accurately, six different new looks in six dramatically named styles.

Each Icon is tiny, at just 1.8 inches long, 0.9 inch tall, and 0.7 inch thick. Yet despite the small size, the hidden buttons on previous Jawbone models are little more than a bitter memory: The Icon includes a visible, tactile button for core actions such as initiating, accepting, or ending a call, along with an easily usable slider for powering the device on and off.

An LED indicates battery status, but pressing the Icon's main button (when you're not on a call) triggers a pleasant voice that tells you how much talk time remains.

But how does the Jawbone Icon work for conducting calls? Merely adequately, unfortunately. People on the other end of the line thought my voice sounded a bit tinny. People on the other end of the line sounded tinny to me, too.

The Icon does have one more trick up its sleeve. A feature called MyTalk offers two types of apps that you can install—for free—on the headset itself: MyTalk AudioApps lets you personalize the Icon's voice; MyTalk DialApps lets you replace the "hold down the main button" functionality (voice dialing, by default) with other features, such as a free 411 service or integration with Jott.

3.5; \$100; Aliph, www.jawbone.com; full review at macworld.com/5950

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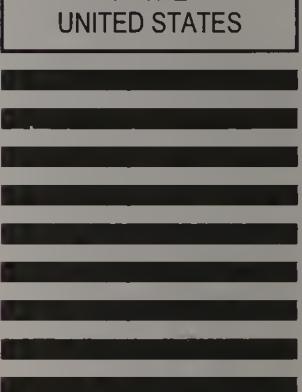
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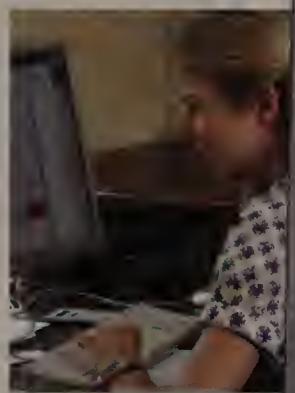
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- Telephone/Network Protection

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APP GUIDE

iPhone and iPod Touch Software
That's Caught Our Eye

V1 Golf 1.00.06

SPORTS In the never-ending quest to perfect your golf swing, why not use the iPhone's built-in camera? With V1 Golf for the iPhone, you can record your swing and compare it side by side with top PGA pros to see exactly what you need to work on. Record your swing using the iPhone's camera (even if you have an original iPhone or an iPhone 3G), and then select a video of a pro golfer's swing to appear side by side with your footage; V1 Golf even lets you overlay one video with the other for an even closer comparison.—**TIM MERCER**

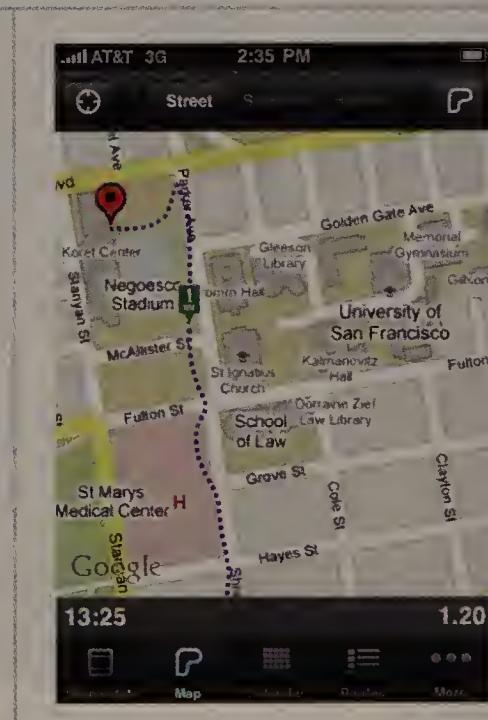
4 1/2; \$10; Interactive Frontiers; macworld.com/5932



Note Taker 2.0

PRODUCTIVITY You're no longer tied to an on-screen keyboard for jotting down notes. Note Taker lets you write down notes with your finger on the screen of an iPhone or iPod touch. The app cleverly overcomes the iPhone's lack of screen real estate by using two layers with different colored inks—the black ink shows your entire note, while the larger red-ink layer shows the zoomed-in portion of the note you're composing. The 2.0 update adds thumbnails, tags, and the ability to e-mail multiple pages as a PDF.—**JOHN FULLER**

4 1/2; \$2; Software Garden; macworld.com/5940



Runmeter 3.0.2

LIFESTYLE One of the best fitness apps in the App Store, Runmeter offers ease of use, excellent postworkout reporting features, innovative sharing functions, and a pleasing interface. The app uses the iPhone's GPS capabilities to track your route as you run; those tracking features show how your times improve. The app generates postworkout reports that are informative and fun to look at. Abvio also offers Cyclemeter (macworld.com/5935) and Walkmeter (macworld.com/5936), which sport features identical to Runmeter's.—**MATHEW HONAN**

4 1/2; \$5; Abvio; macworld.com/5937

APP GEMS

The Joy of Search

Dragon Search 4 1/2
Search across multiple platforms with just the sound of your voice (macworld.com/5664).

We also like:

Inquisitor 4 1/2
macworld.com/5942

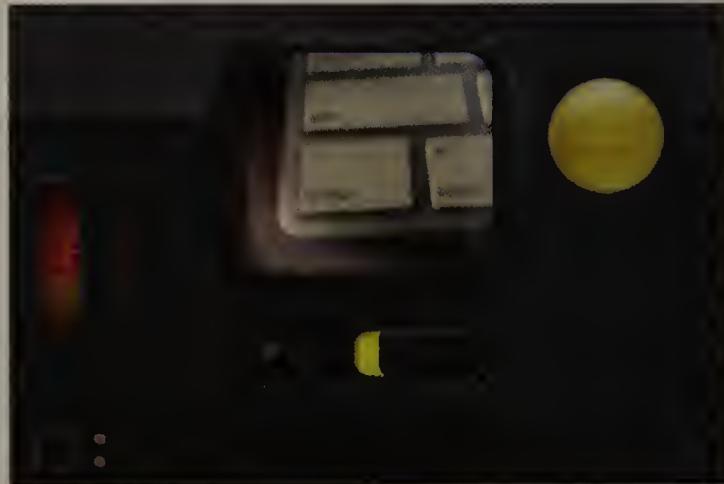
Google Mobile App 4 1/2
macworld.com/5533

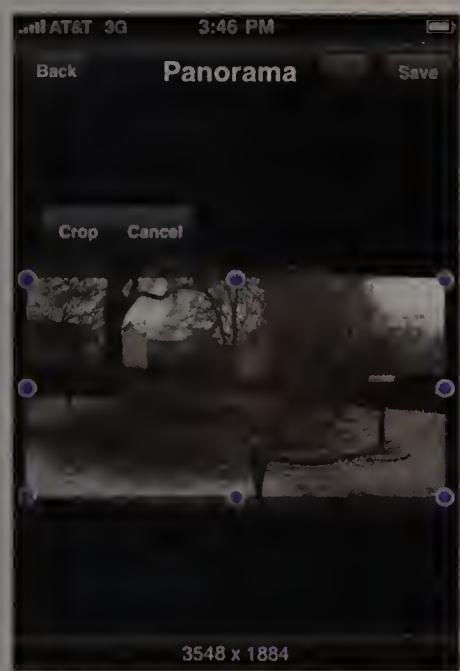
Find more mobile search tools for your iPhone at macworld.com/5849.

Hipstamatic 150

PHOTOGRAPHY From the minute you launch this app and it transforms your iPhone display into a small toy camera, it's clear that Hipstamatic is no ordinary photography app. In addition to mimicking the look and feel of an old film camera, the app gives you an assortment of components—virtual film, lenses, and flashes—that you can combine to give your image a variety of looks. Through in-app purchases, you can buy even more lenses, film, and flashes. Using Hipstamatic, you'll think that you're holding a camera—not a smartphone—in your hands.—**BEAU COLBURN**

4 1/2; \$2; Synthetic; macworld.com/5933





AutoStitch Panorama 2.0

PHOTOGRAPHY Creating panoramic photos takes only a few taps with this terrific mobile photo editor. Keeping things simple for those of us who don't know an f-stop from a doorstop, AutoStitch provides just three settings: input resolution, output resolution, and maximum output file size. The defaults will work fine for most photos, though a useful Hints screen explains things. If you rely on the iPhone's camera to take shots, this is a very useful tool to have at your fingertips.—BRIAN BEAM

4.5; \$3; Cludburst Research; macworld.com/5938

Street Fighter IV

GAMES This isn't a perfect iPhone port of the popular console fighting game. For one thing, the mobile version features only eight of the 19 characters, and the graphics and features won't exactly knock you out. But Capcom has done an excellent job of coming up with a control scheme for a game that, in its other forms, depends heavily on joystick maneuvers. What's more, the multiplayer functionality—available via Bluetooth at the time of this writing—is one of the game's more alluring features.—SARAH JACOBSSON

4.5; \$10; Capcom; macworld.com/5939



More Reviews

See more iPhone and iPod touch apps we've tested at iPhone Central (macworld.com/4164).

APPLICATION	DESCRIPTION	PRICE	RATING	FIND CODE*
1Password Pro 3.1 Agile Web Solutions	password manager	\$15	4.5	5943
The Moron Test 3.0 DistinctDev	game	\$1	4.5	5944
Shakespeare Pro 1.1.1 Readdle	e-book	\$3	4.5	5945
Shazam Encore 2.2.2 Shazam Entertainment	music ID tool	\$5	4.5	5513
TaskPaper 1.1 Hog Bay Software	to-do-list manager	\$5	4.5	5946

* In a browser's address field, typing a find code after macworld.com/ directs you to a product's review or overview. For example, macworld.com/5943 takes you to our review of 1Password Pro.

ESSENTIAL APPS

iPhone for IT

Monitor your network, manage servers, or troubleshoot computers from just about anywhere (macworld.com/5941).



iStat

Pair this monitoring app with a desktop companion and get statistics anywhere.



iTeleport: Jaadu VNC

View and control networked machines from your mobile device.



Mocha VNC

Here's another app that offers remote control over faraway Macs.



Citrix Receiver

Access your Citrix desktop from your iPhone or iPod touch.

Billings Touch 1.1

BUSINESS This stand-alone time-tracking app for people who need to bill their time can sync with Marketcircle's Billings desktop application (macworld.com/4279), if you pay for it to do so.

Billings Touch uses background timers to keep tabs on how long you're spending on a project. But it's the ability to create invoices—another in-app purchase—that sets this app apart.—JEFFERY BATTERSBY

4.5; free; Marketcircle; macworld.com/5934



App Guide

Get more reviews, including reader reviews, as well as listings for every iPhone app at AppGuide.com.



Test Driving the iPad



Should you buy Apple's tablet? Here's what we think. **By Jason Snell**

Before it was even announced, Apple's iPad sparked furious debate. Enthusiasts said it would transform the technology and media industries. Skeptics responded that no company had yet produced a successful tablet computer.

Now it's time for the speculation to stop and the evaluation to begin.

In the pages that follow, you'll find *Macworld's* official review of the iPad. It's based on days of hands-on testing, in the office and at home, using apps from Apple and others for productivity and for entertainment.

Now that the iPad is finally here, the debates about it really boil down to just one question: Is it worth the price? Here's our answer.

PHOTOGRAPHY BY PETER BELANGER



The iPad may be the most impressive piece of Apple hardware I've ever handled. Weighing a pound-and-a-half, it's designed to be held and carried. At the same time, it feels solid. You wouldn't want to toss it around casually, but it *feels* like you could.

The front is almost entirely glass, save for a thin aluminum frame around the edges. The glass extends beyond the viewable screen, creating a black bezel all around the rim—a good place to put your thumbs when you're holding the thing.

The touchscreen itself measures 9.7 inches diagonally, with a resolution of 1024 by 768 pixels. I found that screen extremely bright, with vibrant color and (thanks to a screen technology also used in iMacs) a wide viewing angle. At one point, I set my iPad down on a table while it was displaying an article in Instapaper Pro; I could read the text at an extreme angle.

(At that same angle, I could also clearly see the array of smudgy fingerprints that had collected on the screen—and boy, does this screen collect them. Fortunately, it's got the same oil-repellent coating as the screen on the iPhone 3GS. One quick wipe with a sleeve, and the fingerprints are gone.)

When the iPad was first announced, some people said it was just a bigger version of the iPod touch.

But they didn't then understand how the increased screen real estate changes the user experience. Apps written for the iPad and its screen aren't just bigger, they're richer, too.

For example, on the iPhone an app like Mail is a series of single screens; you're constantly burrowing down and then backing up. (Tap on an account, then the Inbox, then a message, then tap the back button, tap another message, tap the back button three times, tap another account, tap Inbox. . . .)

There's none of that back-and-forth on the iPad. Its version of Mail displays the body of messages in their own spacious pane, while your mailboxes and lists of messages fight over a smaller pane or, in portrait orientation, a pop-up element. It really does occupy a new middle ground between an iPhone app and a full-blown Mac program.

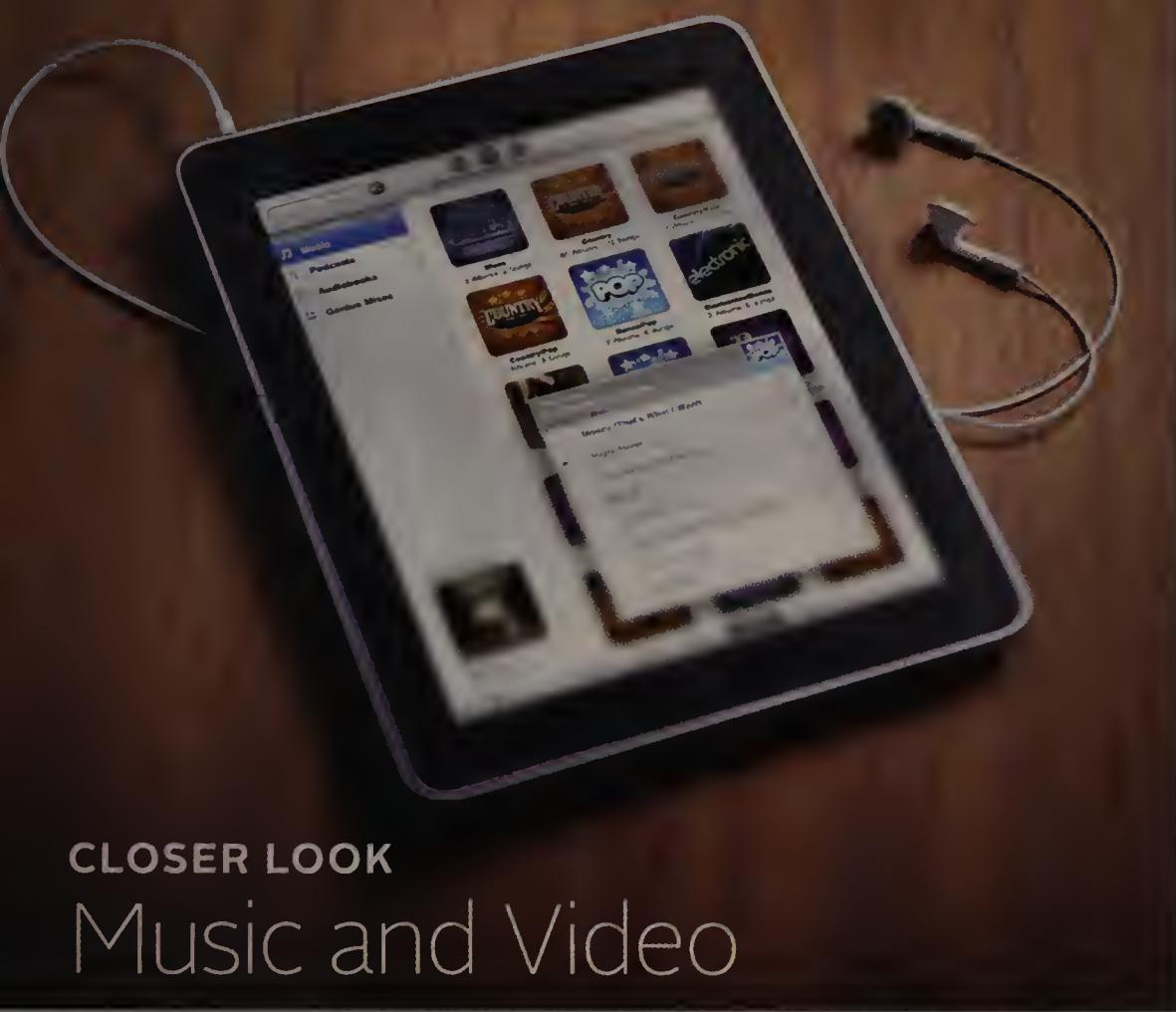
Specs and Speeds

When the iPhone and iPod touch came along, Apple didn't talk about processors and speeds. It wasn't so reticent about the iPad. The tablet's 1GHz A4 processor was built specifically to run the iPad, not just chosen from a CPU vendor's parts list.

What that means during actual use is that the iPad flies. It was fast at almost everything I threw at it. The only times I found myself waiting were when content was downloading from the Internet or when

The screen is extremely bright, with vibrant colors and a wide viewing angle.





CLOSER LOOK

Music and Video

Unlike the iPhone—but like the iPod touch—the iPad splits your media between two applications: iPod (for music) and Videos (for videos).

Like the rest of the iPad's software interface, its media apps are amalgams of features found on the iPhone and the Mac. The iPad doesn't offer enough screen space to accommodate a full-blown version of iTunes, but that's not necessarily a bad thing. That version has become bulkier and packed with more features with each iteration; slimming it down while maintaining most of its functionality is welcome. At the same time, with the extra space the iPad's larger screen provides, there's more breathing room for features that are cramped on the iPhone and iPod touch.

But beyond the software interfaces, what's the iPad really like as a media machine?

The Tabletop iPod

Portable though the iPad may be, it's not the best portable music player Apple makes. That honor goes to the click-wheel iPod and iPod touch. Because of the iPad's size, you won't be slipping it into a pocket to listen to music during your crowded subway commute. Because of its size and lack of voice control, it's not an ideal audio player for the car. Because of its size and weight, you won't want to carry it with you on your walk around the park.

More than an iPod or iPhone, however, the iPad would be suitable as a tabletop

music player. With its large display, a crowd could gather around an iPad connected to powered speakers or an amplifier and tap out the tunes they want to hear. Plus, the iPad's internal speaker isn't half bad; it can be loud but sounds better than the typical clock radio. The iPad's sound from the headphone port is clean and generally packs as much punch as you'll need.

The HD Dodge

The iPad is clearly a better device for viewing video than an iPhone, an iPod touch, or a click-wheel iPod. The screen is large enough and the off-angle viewing good enough that two people sitting close to each other (or a backseat full of kids) could comfortably watch a video on it.

You can play videos in either landscape or portrait orientation. Each is a compromise. When viewing videos formatted for widescreen display, you get large black bars above and below the video when you tap the widescreen button. (If the video was originally formatted as 4:3 standard definition, this button is missing.) Switch to full-screen mode, and the picture fills the screen, but you lose some of the left and right sides of the video.

Apple says that the iPad can handle HD content, but that's a bit of a dodge. The iPad's display has a resolution of 1024 by 768 pixels. The device can output 576p and 480p standard-definition video when connected to a TV with Apple's composite video cable, and 576i and 480i standard-definition video when connected via Apple's component video cable. So where's the HD?

The iPad will accept 720p video, but it won't play it at that resolution. Nothing happens to an HD file when you sync it to the iPad from iTunes—iTunes doesn't convert it. Rather, the iPad scales it to fit the display. That said, HD videos do look better than standard-definition videos both on the iPad and when the iPad is connected to a TV. With regard to playing time, the iPad is a wonder. In our lab tests, we were able to play video continuously (with Wi-Fi enabled) for 11 hours and 25 minutes. An iPod touch lasted just 4 hours and 53 minutes performing this same task (also with Wi-Fi on).

The Happy Hybrid

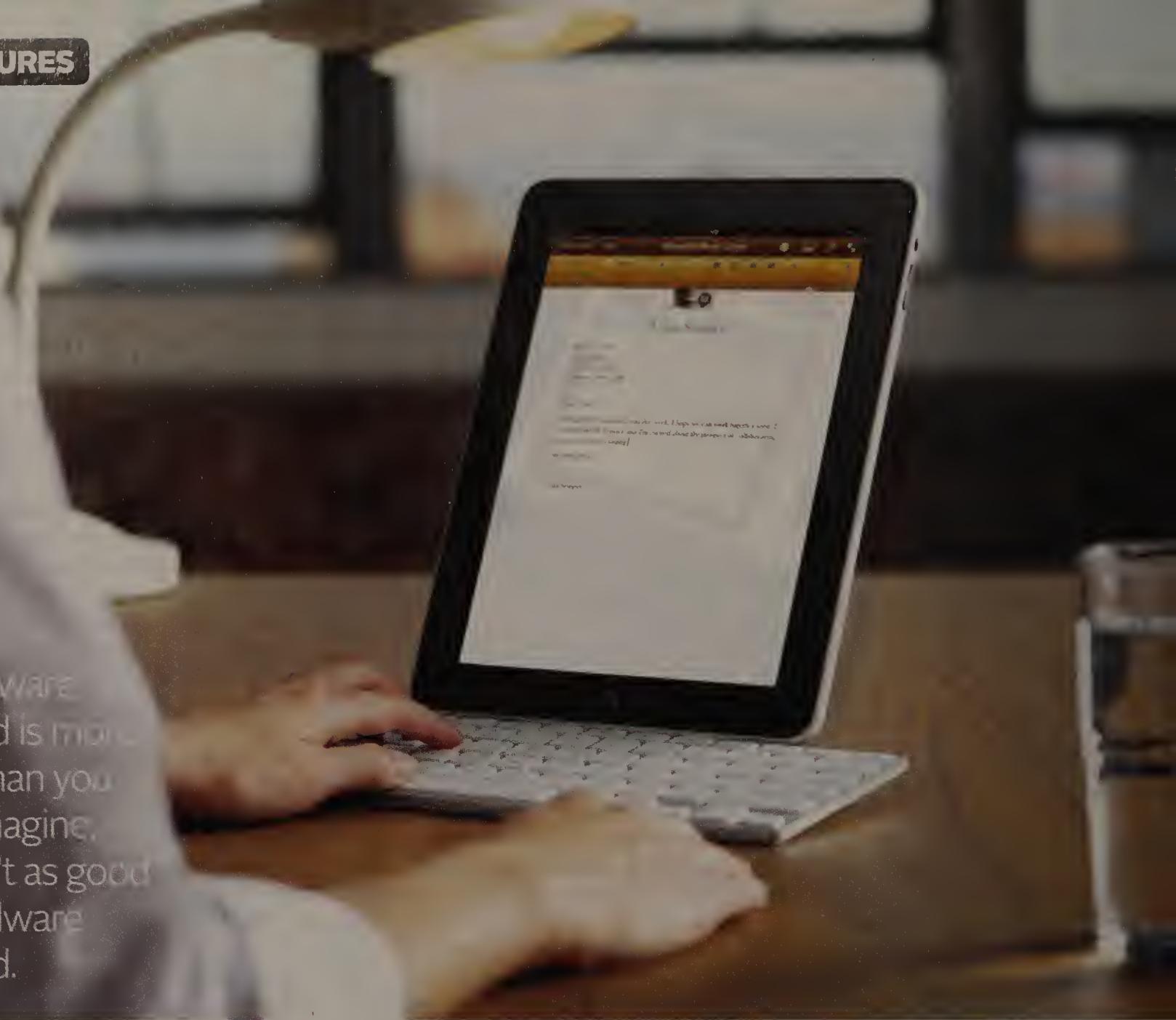
There are places where Apple could tighten things up a bit. But overall, the iPad's app implementation for iPod and Videos is as slick as the iPad itself.—CHRISTOPHER BREEN



Looks Familiar

The interface of the iPad's iPod app mixes elements of iTunes for the Mac, the iPhone's iPod app, and the Music app on the iPod touch.

The software keyboard is more usable than you might imagine, but it isn't as good as a hardware keyboard.



an iWork app was converting a file. Games played smoothly, with gorgeous graphics. There's no lag when panning and zooming around large images. It responds quickly and smoothly to the movement of fingers on the screen. (For more specific performance details, see "The iPad Speed Test.")

Battery life is impressive too. Apple says that the iPad's battery will last for 10 hours. In my two days with the iPad, I found it was better than that: If I charged the iPad overnight, I could use it the whole next day. (For more systematic test results, see "The iPad Power Test.")

How Fast Can You Type?

The iPad's software keyboard is more usable than I ever would've imagined. That's not to say it's as good as a hardware keyboard—it's not, and Apple has admitted as much by offering an optional \$69 iPad Keyboard Dock. But with a bit of practice, I was able to type on screen with both hands and at a decent pace. In landscape mode, the keyboard isn't quite the size of a real one, but it's big enough that you can place both hands on it; that's when you can really start picking up speed. I wouldn't want to use just the software keyboard to

compose a long document, but it's fine for small bouts of typing.

Apple's Keyboard Dock and several Bluetooth keyboards all work well with the iPad. If you've trained yourself to select text by using the Shift and arrow keys, to cut text with ⌘-X, and paste text with ⌘-V, you'll find that those and other shortcuts work.

Reading on the iPad

When the iPad was first announced, some people speculated that it would put Amazon's Kindle and Barnes & Noble's Nook e-readers out to pasture. I'm not convinced it will.

I own an Amazon Kindle 2, and I like it a lot. It's a simple unitasker: It lets you read books (as well as magazines and newspapers) and that's it. The Kindle is cheaper than the iPad, and will presumably get cheaper still. It's lightweight, and its grayscale E Ink display is quite readable (if bland). If someone told me that all they wanted was a book reader, I'd happily endorse the Kindle.

What the iPad offers is, quite simply, *more*. Its bright, colorful, backlit LED display couldn't be more different from the Kindle's monochrome display. More importantly, the device is anything

Reading

I've owned an Amazon Kindle 2 for a little over a year now, and I like it a lot. It's lightweight and its grayscale e-ink display is quite readable, albeit bland. The iPad is quite a bit heavier than the Kindle (think hardcover versus paperback, though that comparison isn't quite right), and its backlit LED display couldn't be more different. The Kindle fails in dark conditions, because it can't light itself—I actually bought a clip-on book light for mine. And of course, the iPad presents everything in glorious color!

I suspect many people expect the iPad to put the Kindle out to pasture, but I'm not entirely convinced. What the Kindle is going for is its simplicity as an e-reader. The Kindle does one



Landscape Keyboard When you turn the iPad on its side, the onscreen keyboard is almost as big as a hardware one—making typing easier.

but a unitasker. It lets you read e-books, but it also lets you surf the Web, check e-mail, play games, listen to music and much, much more. (The Kindle has a Web browser, but it's terrible.)

Like many of its apps, the iPad's version of Safari is a hybrid of the Mac and iPhone versions. From the iPhone, Safari inherits the easy tap-to-zoom interface and resolution-independent type. But it benefits greatly from the extra screen space, not just to properly display widescreen Websites but also to add Mac-like niceties like toolbar favorites.

The one limit here is that no iPad app will let you view content based on Adobe's Flash technology. Apple omitted Flash from the iPhone three years ago and hasn't changed its mind now. If viewing Flash-based content is important to you, the iPad isn't your machine. (For more on the iPad as a Web browser, see Dan Frakes's "Closer Look: Web Browsing.")

iPad as Multimedia Player

Like pretty much every product Apple makes these days, the iPad is also an entertainment device. There's an iPod app for music playback; a Videos app for movie, TV show, and video podcast playback; a self-explanatory YouTube app; and, of course, an iTunes app that you can use to purchase and download content right to your iPad.

The iPod app is a hybrid of the iPhone's iPod app and the desktop version of iTunes. It's got the familiar iTunes play controls at the top and a Source list on the left, letting you select different playlists or mixes. A set of tab buttons along the bottom let you sort your music library in different ways. You can edit playlists and create new ones with custom names—both firsts for an iPhone OS-based device.

And yet I find the iPad's iPod app disappointing. When you play a track, the interface often vanishes

CLOSER LOOK

Web Browsing

Apple (rightly) touts the iPad's Web browsing abilities. From what I've seen so far, they are indeed very good. But are they so good that you can forgo a laptop or netbook in favor of an iPad? It depends. For some sites, iPad browsing is an incredible experience; for others, you'll find yourself saving URLs to visit later on your Mac. But you'll be doing much less of the latter on the iPad than you would on the iPhone.

Before I go any further, however, I have to take note of the elephant in the room: Like the iPhone's browser, the iPad's browser doesn't support Flash. If a site has Flash content and no iPad-friendly alternative, you won't be able to view that content.

But a funny thing has been happening recently: Many Websites that previously used Flash are transitioning to formats that mobile devices can handle. YouTube, for example, started nearly three years ago to dual-encode many videos in Flash and H.264 formats, and Apple's list of iPad-ready sites includes such heavy hitters as CNN, the New York Times, Vimeo, Major League Baseball, Flickr, and Sports Illustrated.

The Experience

There's something deeply intuitive about touchscreen browsing: tapping items with your fingertip, sliding your finger to scroll, pinching or tapping to zoom—it just feels natural. Like the iPhone, the iPad gives you all of those benefits, but its larger screen lets you see more of every page, and its faster processor, graphics, and wireless performance give you faster page loading, rendering, and scrolling.

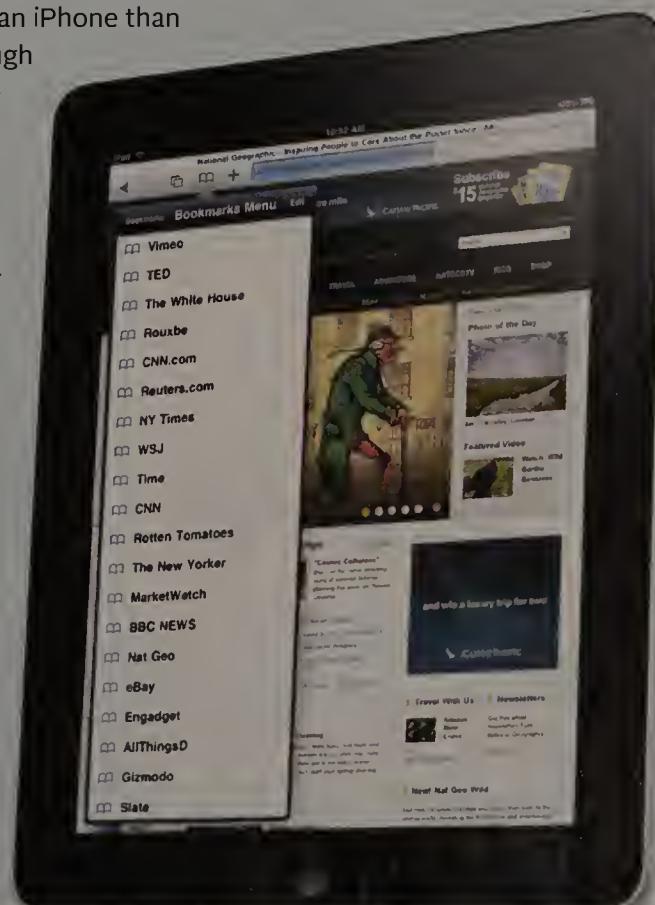
On the other hand, the iPad's screen is still smaller than what you'd get on most laptops, so you see less of a Web page, with smaller type, than you would on a "real" computer, so you're still going to be doing more scrolling and zooming than if you were browsing on your Mac or MacBook.

Desktop versus iPhone

Despite the iPad's larger-than-iPhone screen, using Safari on the iPad is closer to browsing on an iPhone than on a Mac. For example, although you can open as many as nine Web pages at a time on the iPad (versus eight on an iPhone), there are no tabs here; to switch between pages, you must tap a toolbar button to enter an Exposé-like Pages view.

On the other hand, Safari on the iPad displays your bookmarks in an on-screen menu that leaves most of the Web page visible. You also get a convenient bookmarks bar, as you do on your Mac; if you sync your bookmarks with your Mac, the bar will mirror the one on your Mac, with one minor exception: Safari on the iPad doesn't support tab groups.

—DAN FRAKES





and is replaced by the track's album art, which fills the screen; I'm not *that* interested in album art. I also wish the iPad could connect to iTunes shared libraries. And wouldn't the iPad make a great portable version of the Apple TV? I think so, but none of those features are here.

The Videos app is similarly functional yet disappointing. Movies and TV shows are identified by their cover art; I'd rather have a list of titles.

The generally high quality of the iPad display means that movies and TV shows look beautiful. The iPad's surprisingly loud and clear speaker means that you can watch without headphones and still have a pretty good experience.

Unfortunately, the iPad's 4:3 screen means that a lot of video content will display with large letterbox bars at the top and bottom. You can double-tap on the image to zoom all the way in, cutting off the sides of the image. I wish I had more control—so I could, for instance, zoom in increments, cutting off some of the picture without filling the entire frame. (For more on the iPad as an entertainment device, see Christopher Breen's "Closer Look: Music and Video.")

It Won't Replace Your MacBook

Before the iPad debuted in January, the assumption was that it would be designed primarily (or solely) as an entertainment device. But Apple undercut that assumption by announcing iPad versions of its three iWork Mac applications—Pages, Keynote, and Numbers. Add in an external keyboard, and the iPad began to sound like a plausible laptop alternative.

In reality, the iPad isn't going to replace your MacBook Pro. Still, the iWork applications, though

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The iPad Speed Test

To find out how the iPad performs compared with other devices running the iPhone OS, we ran it through a series of tests, and then ran the same tests on the iPhone and iPod touch. The iPad was fastest in four of the six tests, while the latest iPod touch and the iPhone 3GS won one test each.

In our startup test, the iPad took 19.3 seconds to display the unlock screen, just a bit longer than the iPod touch, which took 18.1 seconds. By comparison, the iPhone 3GS took 28.5 seconds to start up.

We found bigger differences when it came to loading Web pages. The iPad took 11.1 seconds to load nytimes.com, 51 percent faster than the iPhone 3GS, which took 22.8 seconds. The iPod touch came in third, taking 24 seconds.

The iPad was impressively faster than the iPod touch at launching apps in two of our tests. The iPad took 5.9 seconds to launch the game Peggle; the iPod touch took 2.4 seconds longer, and the iPhone

iPad versus iPhone, iPod Touch

	STARTUP	PEGGLE	PCALC LITE	STAR DEFENSE	SUNSPIDER	WEB PAGE
iPad/16GB (Wi-Fi)	19.3	5.9	1.7	16.9	10.1	11.1
iPod Touch/64GB (2G, late 2009)	18.1	8.3	1.7	23.1	15.5	24.0
iPhone 3GS	28.5	9.3	1.3	20.6	15.5	22.8
iPod Touch (2G, late 2008)	22.7	13.6	2.0	27.7	33.4	41.4
iPhone 3G	32.5	23.4	3.9	33.5	40.8	47.5
iPod Touch (1G)	30.0	22.9	3.1	34.2	44.9	60.0
iPhone (2007)	34.0	26.4	2.8	36.0	43.0	45.4

Results are in seconds. Best results are in **bold**. Reference systems are in *italics*. The iPad was tested with iPhone OS 3.2. The 64GB iPod touch was tested with iPhone OS 3.1.3. All other devices were tested running iPhone OS 3.1. Peggle and Star Defense were app launch times to the end of the initial load screen. PCalc was launch time to calculator ready. Sunspider was the time to run the WebKit Sunspider JavaScript benchmark. The Web page test was the amount of time it took to load nytimes.com.—MACWORLD LAB TESTING BY JAMES GALBRAITH AND JASON SNELL

3GS an additional second after that. The iPad also opened Star Defense faster than those other two—16.9 seconds compared with the iPod touch's 23.1 and the iPhone 3GS's 20.6. The iPhone 3GS loaded PCalc quicker than the iPad did: It took just 1.3 seconds to open the calculator, while the

iPad and iPod touch took 1.7 seconds each.

The iPad also turned in impressive Sunspider test results, using the iPhone OS's provided Safari browser. It took 10.1 seconds to complete the WebKit Sunspider JavaScript benchmark—35 percent faster than the iPod touch and iPhone 3GS.

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Business Cards
Door Hangers
The Idea Helmet
Post-it Notes
Tri-Fold Brochures



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CLOSER LOOK

E-mail

With the iPad, Apple claims that you can "see and touch your e-mail like never before," but the experience will be quite familiar to anyone who's used an iPhone or iPod touch.

What's New

Mail on the iPad is similar to Mail on the iPhone or iPod touch: You get the same overall look, with many of the same capabilities and buttons. But Apple has taken advantage of the iPad's larger size. For example, the iPad's 9.7-inch screen lets you see more of every message. Viewing the same sample message, the iPhone's version of Mail displayed 10 lines of the message body, with approximately 36 characters per line; Mail on the iPad displayed 34 80-character lines (nearly eight times as much text) in portrait mode, and 25 80-character lines (roughly 5.5 times as much) in landscape mode.

The additional real estate is especially useful when viewing attachments: On the iPad, you don't need to zoom to be able to read the text in most documents, which means you'll do much less of the frustrating zooming and panning. And, of course, using the iPad's nearly full-size keyboard to compose e-mail messages is much easier than using the iPhone's version, which is tiny in comparison.

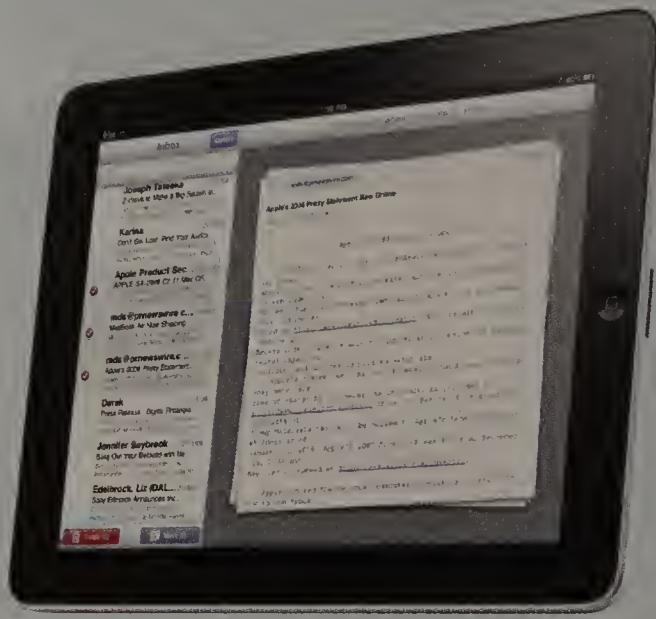
You'll also perform less tapping: On the iPad, Mail's Accounts/Mailbox view is either (in portrait mode) a pop-up menu that leaves the current message mostly visible or (in landscape mode) an always-visible pane on the left side of the screen; in either orientation, the current message remains visible until you select a new message.

Finally, Mail on the iPad feels noticeably faster at everything. Messages—especially complex ones—display more quickly, scrolling is smoother, and attachments download and display faster. The result is a less frustrating experience for those of us who plow through lots of e-mail on our portables.

What's Still Missing

Despite these improvements, Mail on the iPad is still essentially the same program that you get on the iPhone, with many of the same limitations. In other words, don't expect to see all the functionality you'd get with Mac OS X's Mail or most other desktop e-mail clients. Among the desktop Mail features missing on the iPad are a unified inbox, smart folders, and the capability to mark all messages as read. Nor can you send messages to contact groups, edit mailboxes on the device, flag messages, use multiple signatures, or save attachments.

That's a long list. But it shouldn't detract from the fact that iPhone OS's Mail remains a solid mobile e-mail program. While it has its limitations, it gets most of the basics right, and it excels at the most important tasks: viewing and composing messages, displaying attachments, and connecting reliably to nearly any e-mail server.—DAN FRAKES



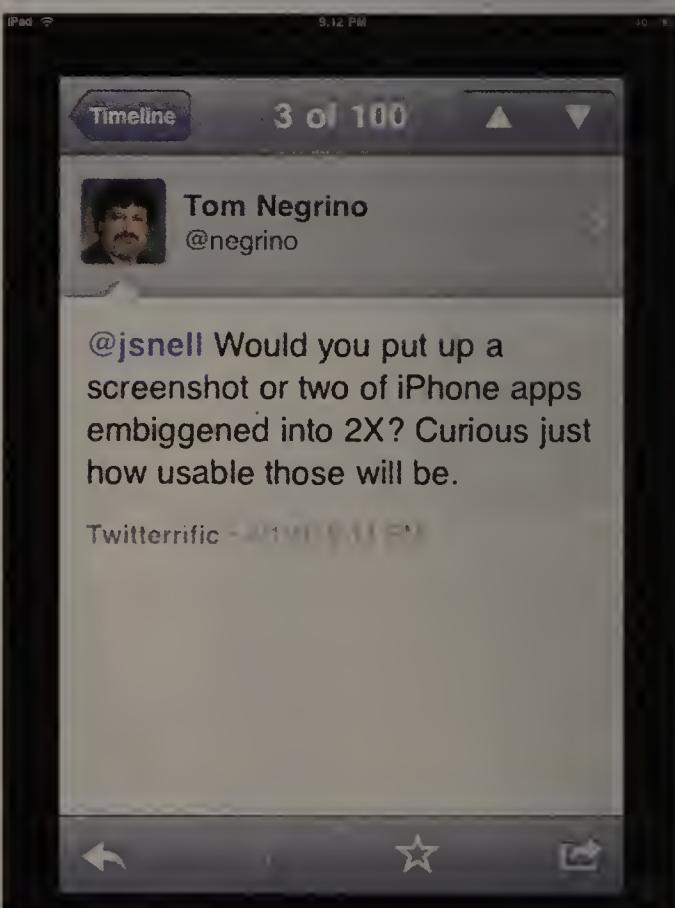
rough around the edges, are also truly groundbreaking. I'm amazed at how much functionality Apple crammed into them. You wouldn't want to use them to create important business documents from scratch, but they're perfectly fine for the kind of light editing you might do on the road.

But there are plenty of other things we do on laptops—checking e-mail and Twitter, surfing the Web, looking up an actor on IMDb—for which the iPad is perfectly suited. If you've ever considered buying a cheap laptop to keep around the family room for quick Internet access, the iPad would fill the bill perfectly.

In the Hand, on the Lap

One of the biggest challenges in using the iPad has to do with ergonomics: Where do you put it, and can you see and touch the screen comfortably from there?

The laptop has two separate planes, one that sits on your lap (or desk), another that faces you. The iPad has only the one plane, which makes things trickier. In some positions on a couch or in bed, I felt uncomfortable with the iPad, and I had to keep shifting until I found a position that worked. For many people, an iPad case—which you can use to prop up the tablet at a comfortable viewing angle—will be a must. Reading with the iPad is also a two-handed activity. Without a case, the iPad



Pixel Doubling You can run iPhone-native apps at their native resolution or double them in size to fit the iPad's screen.



booq 

mamba catch

Laptop shoulder bag for 13-15" Mac (\$149.95). Visit booq.com for more details.

iPAD CASES

Protect Your Investment

One of the first accessories many of you iPad owners will want is a case or bag to keep your new gadget safe. Luckily, you won't be lacking options: Many vendors announced, and in some cases even released, iPad bags and cases before the iPad was available; we received dozens of samples before we even had an iPad in the office. Here's a sampling of some of the early options for protecting your iPad; many more are on the way.

One word of warning: Because vendors didn't have an actual iPad to design around, most based their designs on Apple's specs. As a result, we've found that, while some early bags fit the iPad perfectly, others—including a few you see here—don't. (Most of the ones that don't fit are too big, so they're at least usable.) Be sure to try before you buy. If you're shopping online, check the bag's internal dimensions against Apple's iPad specifications, or e-mail the vendor to confirm that the shipping product does indeed fit the iPad well.

A **Micro XS** \$45; STM, www.stmbags.com

B **Ultimate SleeveCase** \$55 to \$59; Waterfield Designs, www.sfbags.com

C **PixelShield** \$40; Speck Products, www.speckproducts.com

D **Gramercy Messenger Sling** \$30; Cocoon Innovations, www.cocooinnovations.com

E **Bubble Sleeve** \$50; Hard Candy Cases, www.hardcandycases.com

F **Jumper** \$30; Griffin Technology, www.griffintechnology.com

G **Elan Passport** \$50; Griffin Technology, www.griffintechnology.com

H **Ristretto for iPad/Netbook** \$110; Tom Bihn, www.tombihn.com

I **LaCie ForMoa 10.2"** \$25; LaCie, www.lacie.com

J **Elan Sleeve** \$50; Griffin Technology, www.griffintechnology.com

K **DermaShot Silicone Case for Apple iPad** \$35; Incipio Technologies, www.myincipio.com

L **Netbook/iPad Messenger** \$50; Skooba Design, www.skoobadesign.com

M **Pleat Sleeve** \$40; Belkin, www.belkin.com



What could be more natural?

iBird™ Yard for the iPad

Searching for an experience as magical as nature itself? Take a look at iBird Yard, the revolutionary new field guide for the iPad.

Experience iBird's gorgeous hand drawn illustrations and professional photographs on the big bright backlit screen of the iPad, and you will never go back to paper-based bird guides again.

iBird on the iPad is simply stunning.

Navigate with a casual swipe, through screen after screen of expertly researched facts, colorful range maps, and comprehensive identification details.

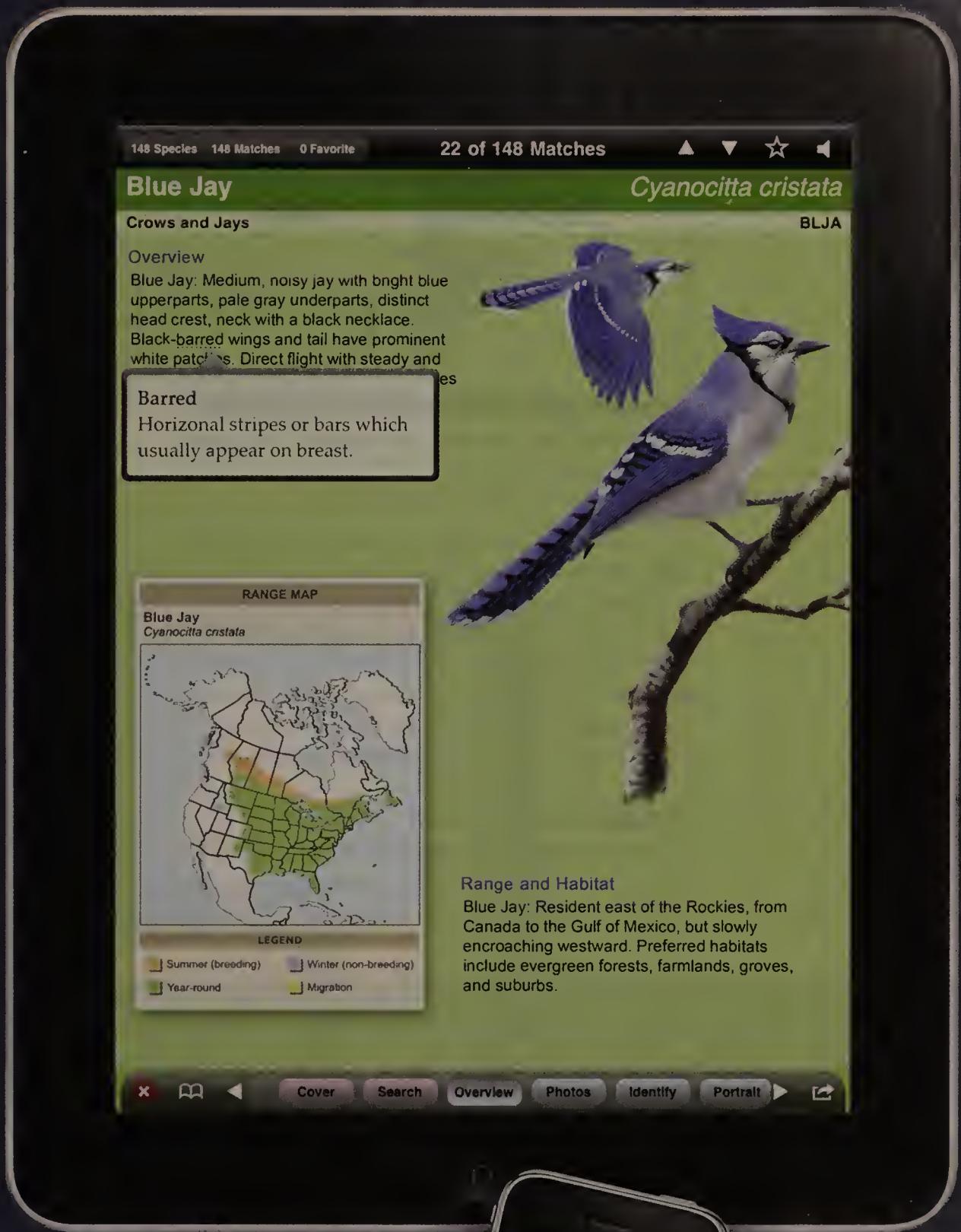
Tap to hear bird songs and calls, with enhanced fidelity and volume from the iPad's built-in speaker system.

Search with instinctive ease, using an identification engine that offers instant feedback on over 30 different parameters, helping you ID birds in seconds.

And, there's more: Compare up to four different bird species; Tap common terms to view a pop-up glossary; Sort birds by first name, last name, family, or taxonomy; List birds in icon, album, gallery, or plain-list format; and Connect to photos and information on flickr and Wikipedia.

iBird Yard for the iPad will astound you with its thoughtful interface, beautiful colors, and depth of content.

Put down that book, and pick up iBird Yard for the iPad. What could be more natural?



iBird is also available for the Apple iPhone and iPod touch. Find them in the iTunes App Store.

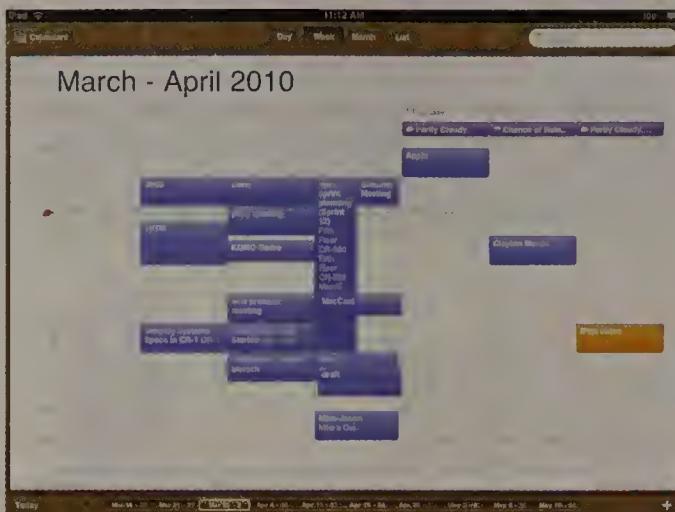


"iBird Explorer Plus is nearly perfect and one of the best field guides to birds you'll find anywhere..."

Jeff Battersby, Macworld

From the developers of iBird for the iPhone-winners of Macworld's Best Reference App 2009 • www.iBird.com • 415 888 3233

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Better than iCal? Like some of the tablet's other apps, the iPad's calendar mimics the look of its real-world counterpart—in this case, a day planner.

is heavy enough and slippery enough that I found it difficult to hold in one hand.

I didn't really like Apple's iPad case on first glance, but I have come to appreciate it as a major improvement to iPad usability. A flood of other case manufacturers will undoubtedly follow—some of them simply jumping on the bandwagon without adding much value, while others will make the iPad easier to use.

The Apps It Comes With

I've already mentioned the iPad's version of Safari: It is, in many ways, the tablet's centerpiece app (if a device connected to an App Store with thousands of

apps can be considered to have one). But the iPad's other built-in apps aren't too shabby, either.

Mail A fusion of the iPhone's Mail program and the Mac version of Mail, Mail on the iPad is pretty and functional, though there's still a bit too much sliding around between mailboxes for my taste. (For Dan Frakes's take on Mail, see "Closer Look: E-mail.")

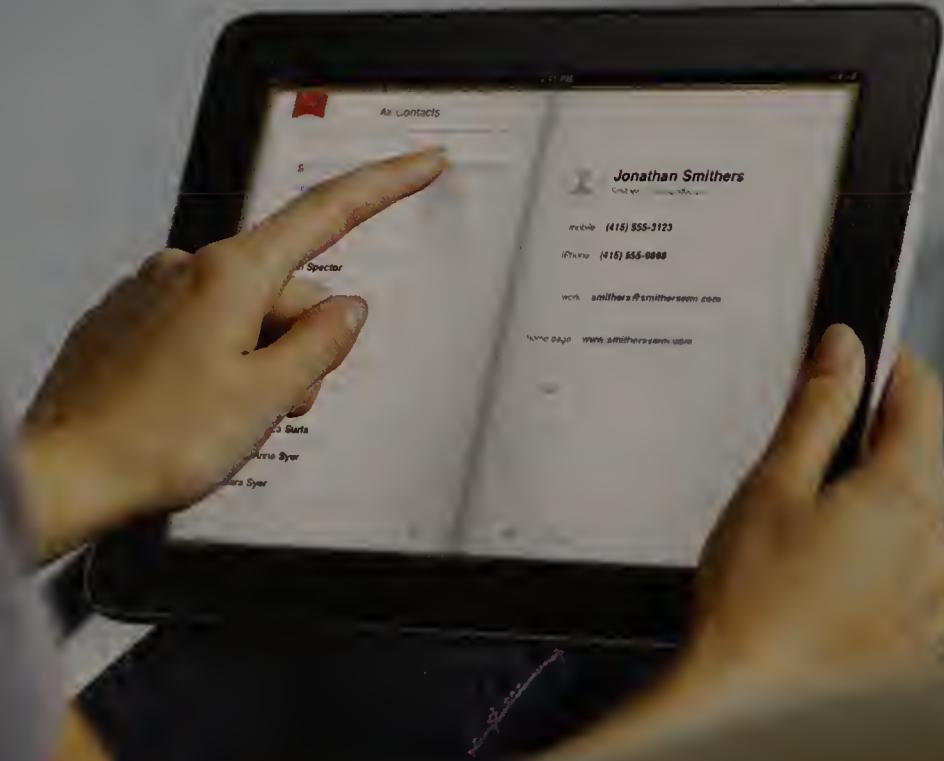
Calendar The iPad's Calendar app has a nice embossed background reminiscent of a physical day-planner, but beyond that it's much like Apple's iCal application for Mac OS X—except that the iPad's Calendar app is better than iCal, in my opinion. It feels more responsive, looks better, and provides more-flexible views.

Contacts The iPad's basic address book app is Contacts. Like Calendar, it has a frame that's reminiscent of a physical address book.

Notes An overgrown version of the Notes app for the iPhone, Notes on the iPad similarly insists on using an interface based on lined yellow paper and the annoying Marker Felt typeface. Thank goodness the App Store will soon be flooded with plenty of alternatives.

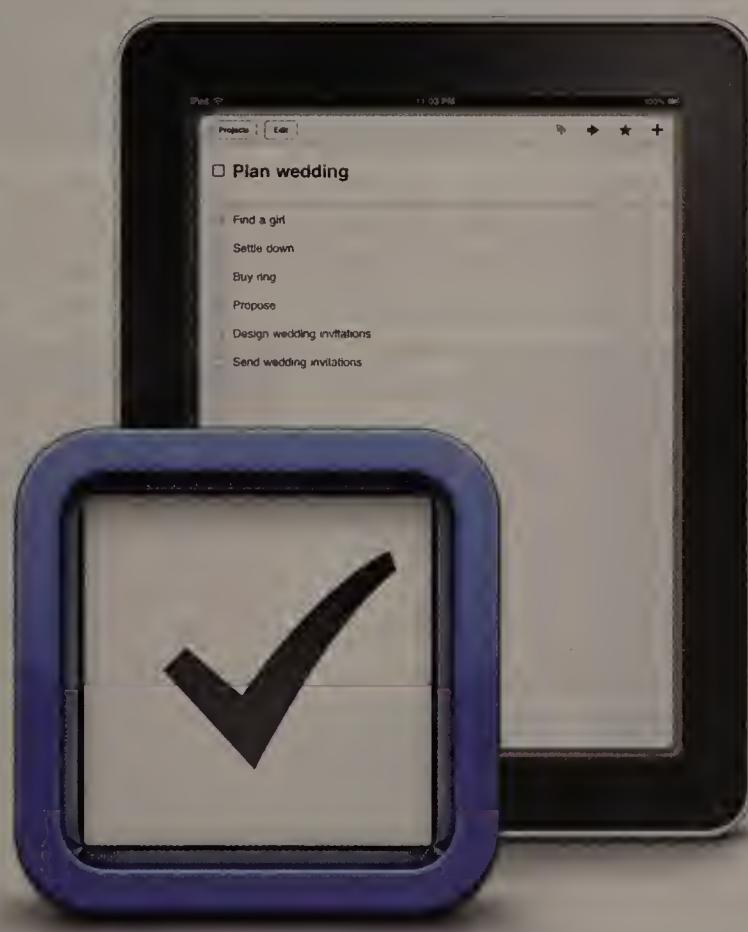
Maps Anyone who's used Maps on the iPhone will quickly become familiar with it on the iPad, but the iPad version offers a number of nice improvements. The sheer size of the iPad screen makes Maps much more attractive. There's a new Terrain

Without a case, the iPad is heavy enough and slippery enough to be difficult to hold in one hand.



Things

for iPad



Things
for Mac



Apple Design Award
Mac OS X Leopard Developer Showcase
2009 Winner

Things
for iPhone



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view that puts your surroundings in graphic relief. And a new blue overlay bar lets you navigate without the driving directions getting in your way.

Photos On the iPad, the Photos app might seem like an odd duck—the device has no camera. But it's a beautifully designed app, with photo galleries displayed in stacks of images that you can pinch open and closed with two fingers. The iPad makes a fantastic photo album (and digital photo frame), thanks to its screen. Just about the only thing Photos doesn't do is let you edit your images.

Some iPhone apps have no iPad equivalents. Weather, Stocks, Clock, Calculator, Voice Memos, and Compass have all been omitted. But there are free replacements for most of them on the App Store, and those are generally better than their Apple equivalents.

The iPad's home screen is slightly updated from the iPhone's. You can now set a wallpaper image behind the home screen. And the dock at the bottom of the screen can hold up to six apps, rather than the iPhone's four.

Unfortunately, you can fit only four apps per row in the main area of the home screen (in portrait

mode), making it seem a bit barren. (You can fit five rows per screen.) In landscape, those ratios reverse; you get four rows of five apps each. A tighter grid or larger icons would help. And the iPad, even more than the iPhone, is crying out for small, drop-in widgets. Who needs a full-fledged weather app when you could fit a small weather widget in the corner of a home screen?

Macworld's Buying Advice

Is the iPad good? Undeniably, enthusiastically yes. It's a fantastic piece of hardware, inside and out. But more than that, it's the apotheosis of Apple's design philosophy, synthesizing cutting-edge hardware design with innovative system and application software into a single, unified product. Holding the iPad feels like you're holding the future, and not in a hazy dreamlike way, but in an *I can't believe I'm actually here* kind of way.

Should you buy one? That depends, as always, on what you want to do with it. If you have to have the gee-whizziest, most cutting-edge gadget, you will find none that is gee-whizzier or cutting-edgier. If you want an Internet-connected device for your living room or nightstand, the iPad is that, too. I don't think you'd buy the iPad as your main Mac, but if you are in the market for a supplemental laptop, I'd give the iPad some thought.

Apple faces a challenge in teaching people what the iPad is and how they might use it.

But whether it becomes a smash hit right away, takes time to catch on, or fails altogether, that doesn't change the iPad's strength as a product. I don't know whether Apple will sell a million iPads this year or 10 million. But I do know that the iPad is an impressive debut for Apple's ambitious new direction.

Jason Snell is Macworld's editorial director.

The iPad Power Test

I was anxious to test Apple's claim that the iPad can provide up to 10 hours of battery life when you're "surfing the Web, watching videos, or listening to music." Turns out Apple understated the case.

I started by transferring a rented iTunes movie from my MacBook Pro to the iPad. When the movie was loaded and began playing, I unplugged the fully charged iPad and took note of the time. Four hours and 15 minutes later, I checked the battery level

and saw that it had gone down by 30 percent. I checked back every couple of hours to restart the movie, and finally, after a full 11 hours and 25 minutes, the iPad shut down.

I ran the same test on a second-generation iPod touch (late 2009), which Apple claims is capable of up to 6 hours of video playback. The touch lasted just 4 hours and 53 minutes before shutting down.

Christopher Breen tested the iPad's battery life when playing audio only. He found that the iPad ran for over 43 hours—and still had 71 percent of its battery life left.

I also timed how long it took to recharge the iPad. It took just shy of 4 hours for the iPad to fully recharge under the optimal conditions: sleeping and plugged into its 10W power charger.—JAMES GALBRAITH



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We compare personal finance tools for the desktop, iPhone, and Web

Mac MONEY managers

Today, dealing with money is a lot different than it was in the days of paper bills, checks, and bank teller windows. Now, you might never actually see any of those things. Chances are you receive your paycheck through direct deposit into your bank account. And you probably put away money into some sort of retirement fund. When it's time to pay your bills, perhaps you use an online bill paying service, and when you make a purchase, you pull out your ATM card. Money, for the most part, is now a set of digits maintained by an institution that attaches a balance to your name.

With your money spread over several accounts and with bills to pay, the challenge is to figure out where all your money is and where it's going. Fortunately, as the places your money goes get more disparate and complicated, the software tools for managing your money have gotten more sophisticated; they're able to aggregate information from a variety of sources and make it easier for you to see the state of your finances at any given moment.

The difficulty lies in finding the right personal finance software to fit your specific needs. The field of applications is broad, with options for managing your money from a desktop computer, the iPhone, or the Internet cloud. In most cases, you can use each piece of the puzzle separately or link all three together. Unfortunately, no single application is likely to meet all your requirements.

I've pulled together a collection of applications that I think are among the best available for managing your finances. While their approaches differ, all are versatile enough to help you get a grip on where your money is coming from, where it's going, and how to keep some for when you retire.

Most of the applications covered here make certain assumptions about the way you conduct your financial life: that you already use some kind of Web banking provided by your bank, that you pay your bills by check or through your online banking account, that you want to leverage tools that your bank already offers you, and that you want to see all your financial information in one place.

BY JEFFERY BATTERSBY | ILLUSTRATIONS BY CHRISTINA UNG



MIND MONEY WITH YOUR MAC

It used to be that you had limited options for managing your money on your Mac. But over the last few years, several new Mac money-management applications have appeared, giving you many more choices.



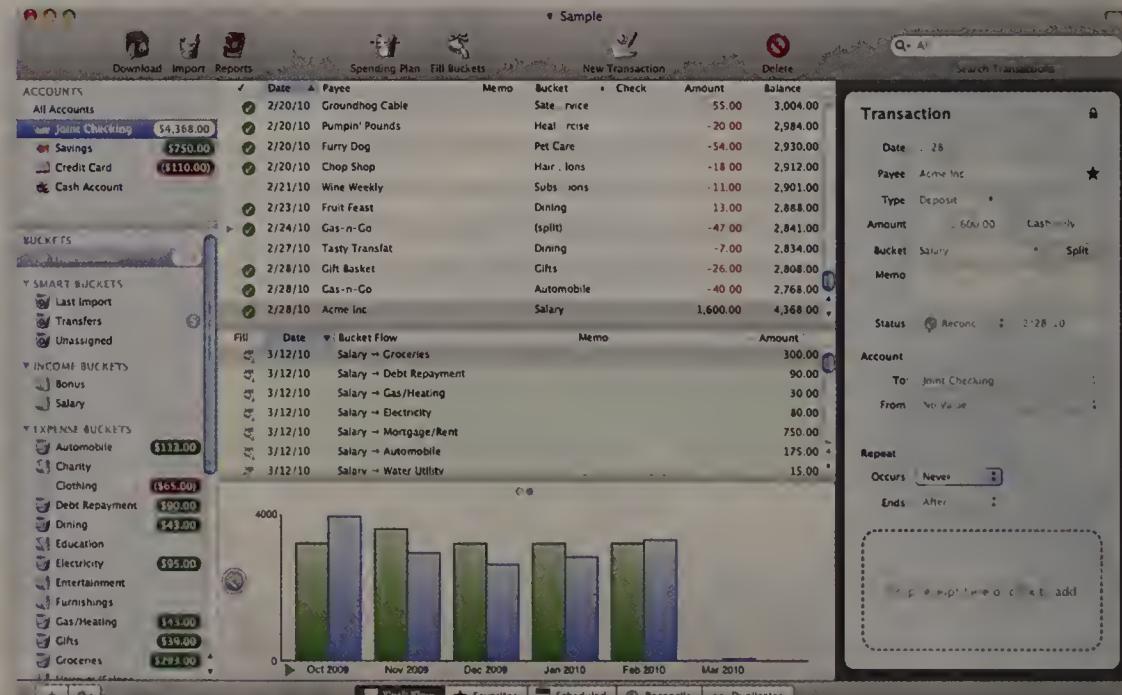
Jumsoft's beautifully designed **Money3** (\$39; www.jumsoft.com) includes the typical budgeting, income, and expense features. It also has tools for managing small-business inventory and invoicing.

Money3 can't automate the process of importing your banking information from the Web, but when you download a QIF, CSV, OFX, or QFX file from your bank, the program recognizes the file type and starts the import process, allowing you to select a transaction's category before the import completes.

SplashData's **SplashMoney** (\$20; www.splashdata.com) offers money management in what I consider a pretty austere interface. But the software does a fine job of handling your finances.

SplashMoney has a typical array of features, such as basic reporting, budgeting, and account reconciliation. It can automatically download data from many banks, but the way it links to my banks requires that I pay my banks a monthly fee (\$5 each, though fees can vary by bank). SplashMoney can import data in QIF, CSV, OFX, or QFX formats, so it's easy to get banking data to work with SplashMoney.

Midnight Apps' **Cha-Ching 2** (www.midnightapps.com) is in beta, but it's worth mentioning. Each transaction appears in a ledgerlike list; select a transaction, and a small receipt appears to the right of the ledger, allowing you to add more detail. Cha-Ching makes use of smart folders and offers an easy-to-use budget tool.



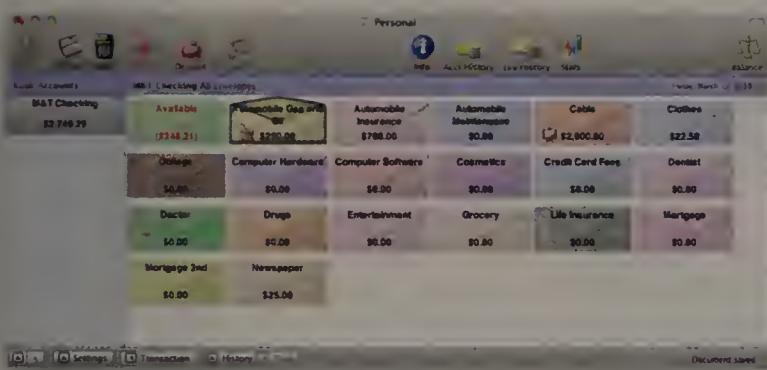
Buckets of Cash MoneyWell's bucket-based financial tool offers an easy-to-understand way of budgeting and spending your money.

Fortora Fresh Finance (\$45; www.fortora.com) is a cross-platform application that offers basic but useful tools. Fortora can import a number of standard banking file formats, (including OFX and QFX files), but it required that I use the for-pay bank service that most of the desktop applications need to automatically download data from my banks.

Fortora's home screen gives an overview of your financial status, displaying your net worth; a list of accounts, credits, and debits; and reminders of upcoming bills or events you've scheduled. Fortora automatically creates a list of payees from your imported data and comes preconfigured with a standard set of categories that you can use on your transactions.

Fortora did exhibit some minor bugs. I got an HTML error when I tried to open the program's help file. When I used one of the two methods available for creating new accounts, the window that was supposed to display a list of available banks was empty and I couldn't proceed with the account creation.

MoneyWell (\$50; nothirst.com), from No Thirst Software, is one of two applications I looked at that take an old-school approach to organizing your personal finances. It uses separate envelopes, each designated for a specific part of your budget: one envelope for utilities, one for



Dated Envelope UI Budget's user interface is beginning to show its age, but it still offers excellent tools for envelope-based budgeting.

groceries, one for your car payment, and so on. The beauty of the envelope scheme is that, unlike with a credit card or even a checking account, you can't spend money if it's not in the designated envelope.

MoneyWell really tries to get you to think about the money you're making. It uses envelope-like buckets for your

salary, bonus, and other income sources, and expense buckets to help you plan your spending. You set budgets and priorities for each expense bucket. As you receive new income, MoneyWell disperses your cash accordingly.

MoneyWell does allow you to download transactions directly from your online account, but my banks each impose a monthly fee. Fortunately, MoneyWell can also import data downloaded from your bank in QIF, CSV, OFX, or QFX formats. I've been a fan of Snowmint's **Budget** (\$40; www.snowmintcs.com) since I first used it as a classic Mac OS application

many years ago. Like MoneyWell, Budget uses the envelope model to help you manage your money. Although I still like the way Budget works, the interface feels a little dated.

After you run through the initial setup process, which really involves nothing more than setting up the envelopes/categories you want to use to hold your money, Budget is easy to use. You create pay sources for your income, telling Budget which bank accounts to assign your income to. You then adjust pay allocations so that your paycheck is distributed appropriately among the envelopes. Once you have enough money in an envelope to pay a bill, you either write a real check or pay your bill online and then use the envelope's debit or check option to take the money out of the envelope. Simple and effective.

Quicken Essentials 1.1

► Quicken Essentials 1.1 (1/2; \$70; quicken.intuit.com), from Intuit, is basically a lite version of Mint.com (a division of Intuit) in a desktop application. The software is missing a number of, er, *essential* features (including in-depth investment tracking, integrated bill paying, password protection, and a TurboTax export feature) that will justifiably annoy current Quicken users.

Quicken Essentials imports Quicken 2007 data without a problem. The program can link to and automatically download data from more than 12,000 banks, although of the three banks that I use, one requires that I pay a fee, and another (a local credit union) offers no connection at all. Unfortunately, Quicken Essentials can't import data in QIF or CSV formats.

Quicken Essentials' Overview window shows a pie chart displaying your top five spending categories, a list of your current assets and liabilities, a list of upcoming bills, and selected budgets that you've created. To change what you see in the main window, you select any of the items that appear in the program's Source list.

The program lacks an obvious tool for creating a report. Instead you have to first select the Spending Cloud report from the Reports group in the Source list. You then click one of the categories that appear in the cloud, which will display a report for that category. When your report opens, you select the settings menu that appears on the report. When the settings sheet opens, you can fine-tune the items that appear on your report, and then click the Save Custom Report button. Quicken Essentials will then save a new report under the Reports group.

With the exception of Reports and Budgets, everything else in the Source list is some subset of the ledger you see when you select the Transactions item from the Tools group. And this, in a

nutshell, defines what Quicken Essentials is: a couple of graphs and a bunch of transaction lists. In the end, that's not much to write home about.

Macworld's Buying Advice

Quicken Essentials is a good start, but you're better off using Intuit's online Mint.com application, which appears to have been the template for Quicken Essentials. Or you may want to stick with your current version of Quicken or other favorite personal financial application. Although Quicken Essentials shows some promise for Intuit's future (it marks the first time in years that the company has created an application for the Mac that is soup-to-nuts brand new), it's missing too many basic features.



Quicken Reborn Quicken Essentials for Mac is a new application from Intuit for monitoring and managing your personal financial information.



TRACK CASH IN THE CLOUD

Several financial management applications have popped up on the Web. These applications are centralized, are accessible from anywhere, and require little in the way of maintenance and setup.



Wesabe (free; www.wesabe.com) is a community-based money-management tool. As you manage your money, you can share your woes with, get encouragement from, and learn from others.

Account setup in Wesabe is simple for some accounts and a hassle for others. Once you enter the Web accounts, Wesabe automatically downloads any new transactions each time you log in. For most of the banks I use, however, I need to download a monthly data file from my bank and upload it to Wesabe.

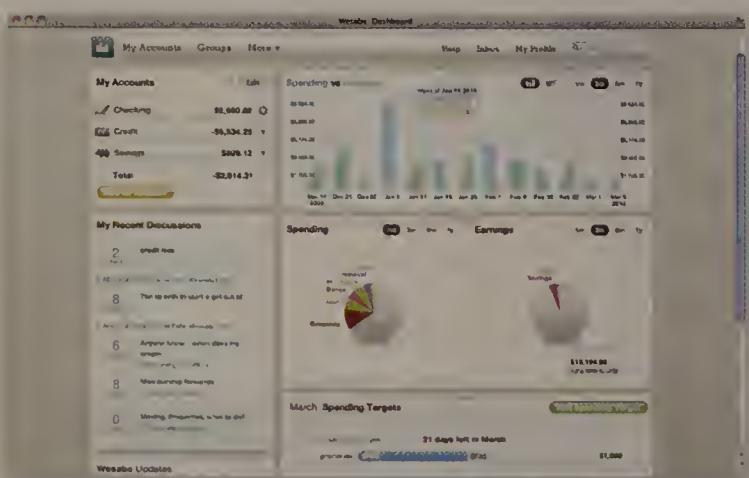
After your transactions are loaded, you can tag each one with multiple categories. These tags are then used to help you track spending and income. You can also create or join groups with other Wesabe users where you can learn how to get out of debt, increase your savings, or just commiserate.

Buxfer (www.buxfer.com) offers three account types: Basic, free; Plus, \$2.79 per month; and Pro, \$3.79 per month. Plus gives you more options than Basic, and Pro gives you more than Plus. But there's little more you can do in the for-pay

accounts than you can in a free Basic account.

Buxfer was able to automatically download transactions from my credit card accounts and one of my bank accounts, but I could only download and import statements from other institutions.

In terms of features, Buxfer offers some pretty basic fare when it comes to tagging your



Support Group Wesabe combines financial management with community support, giving you one place to watch your cash flow and learn from others.



Fresh and Clean Mint offers a mature, well-designed Web interface for helping you make budgets and manage income and expenses.

transactions and reporting on your purchases, but it was able to automatically recognize many of the transactions that I imported, and it offers a slick Web-based iPhone interface that let me log in and view my account information on my phone.

Mint (free; www.mint.com) is my favorite Web-based money manager. It's capable of importing data from all but one of my bank accounts, using my regular Web login for each account to import Mint data. The first time you import banking information, Mint attempts to put the transactions in their proper categories; but Mint's automatic categorizations were initially either too generic or not quite what I wanted them to be. You can edit your first few transactions to reflect the categories you want them to fall into; then the next time they're imported, your transactions will reflect the proper category.

Mint offers abundant budgeting and planning tools, graphs, information on spending trends, and even options for saving money on credit cards, IRAs, insurance, and brokerage accounts. These offers are essentially ads, so caveat emptor.

Mint can't directly connect to one of my credit union accounts. Usually, I can work around this kind of limitation by manually downloading my transactions and then importing them. Unfortunately, Mint offers no manual import, so I can't use it to track the income or expenses from this account. Even so, Mint is the best financial management application I've used.

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TEND TO DOUGH ON THE GO

Most of these iPhone apps are designed to be used in conjunction with their Web- or desktop-based siblings, although most of them can also work as somewhat limited stand-alone financial management tools.



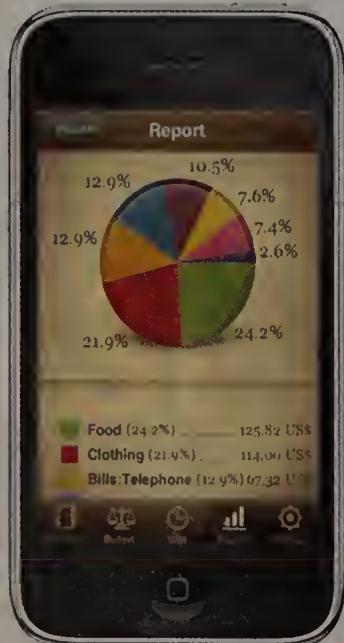
Mint (free; macworld.com/5965) is just a window to the information you're already tracking on Mint.com, so you can't add, edit, or update anything through this iPhone app. But it does give you a quick look at everything you need to know.

Jumsoft Money (free; macworld.com/5966) is well designed and links with Jumsoft's desktop Money software, but it also allows you to add new transactions on your iPhone or iPod touch and then sync your iPhone transactions with the Jumsoft

desktop app, making it easy for you to take your money on the road.

Budget (\$1; macworld.com/5967) is designed to help you create budgets and then track your spending as it relates to those budgets, without the need for a desktop or Web-based application. This great little app works well and offers e-mail-based backup and restore options.

Budget Touch (\$6; macworld.com/5968) links with Snowmint's desktop envelope-based spending application, Budget, but it can also be used by itself. Like the desktop application, Budget Touch uses envelopes to help you track your income and expenses, helping you put money aside for a rainy day or for the bills you have to pay on a regular basis.



Mobile Money
Jumsoft Money works with the equally beautiful Jumsoft Money desktop application.



Touch Up Your Budget You can use Budget Touch with Snowmint's Budget desktop program, but it also works well as a stand-alone iPhone app.

SplashMoney (\$5; macworld.com/5669) can sync with SplashData's desktop program by the same name. SplashMoney can automatically download transactions from several banks (though your bank may make you pay for the function). The app gives you tools to create budgets and customize reports for tracking your personal finances. The SplashMoney app is not only a powerful addition to the desktop application, but also a competent tool for tracking finances on your phone.

Personal Assistant Premium (\$7; macworld.com/5970) is a slick tool for tracking everything from your 401k, brokerage, and bank account balances to Twitter tweets, e-mail messages, and personal travel information. The app does an excellent job of handling your money-related accounts, letting you use your Web logins to access and track all your income and spending.

Jeffery Battersby tries to spend as little cash as he can. He writes about Macs and more at jeffbattersby.com.

The Download Dilemma

► One unfortunate problem with many of the programs featured in this story is that they use a method for downloading files from your bank that was implemented long before most banks had an online banking presence. This method was originally devised for Quicken and typically requires that you add an additional feature to your bank account that banks will likely charge a fee for. Many newer programs and services, such as Mint.com and Money3, give you the option of using your existing online banking account's user ID and password to download, import, and update information.

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When You Outgrow Your Backup Disk

Here's how to move to a larger one without losing existing backups

BY JOE KISSELL

If you've been using Time Machine for backups, you may one day outgrow your backup disk. It's easy enough to plug in a larger disk or a Time Capsule from Apple (3992; macworld.com/3992) and choose it as your new Time Machine destination, but doing so means starting over. If you'd like to move to a larger disk while maintaining the continuity of your backups, you can. Just follow these steps.

Move to a New Time Capsule

To move your backups from a local disk to a Time Capsule, do the following.

1. Set up your new Time Capsule (according to Apple's instructions), but leave your current backup disk mounted in the Finder. If possible, connect your Mac to your Time Capsule with an ethernet cable, which will speed up the transfer process considerably.

2. Open the Time Machine pane of System Preferences, click on Select Disk (or Change Disk, in Leopard), and select your Time Capsule disk as the destination (see "Adjust Backups"). Click on Use For Backup.

3. Choose Back Up Now from the Time Machine menu in your Mac's main menu bar, and allow Time Machine to begin backing up your Mac to the Time Capsule. Once the Time Machine preference pane shows that the program has finished preparing and is actively copying data, turn Time Machine off by clicking the Off/On button in the Time Machine pane of System Preferences.

4. Select your Time Capsule in the sidebar of any Finder window and double-click on the folder inside it containing your Time Machine backups (the folder may be named 'Data' or



'Backups'). If the disk doesn't mount automatically, click on Connect As, and supply your username and password if prompted to do so. This folder should contain a single disk image, holding your recently aborted Time Machine backup. Double-click on this disk image to mount it in the Finder.

5. Open Disk Utility (in /Applications/Utilities). In the list on the left, select your local Time Machine backup volume and click on the Restore tab.

6. Drag your local backup volume (the indented volume name, not the disk name) from the list on the left into Disk Utility's Source field.

7. Drag the mounted disk image (named 'Time Machine Backups') from the list on the left into Disk Utility's Destination field. Make sure the Erase Destination checkbox is selected.

8. Click on Restore, then click on Restore again to confirm. Now prepare to wait while Disk Utility copies the files—this could take hours or even days.

9. When the restoration is finished, quit Disk Utility and eject the disk image from your Time Capsule. You can then

turn Time Machine back on, and your backups should proceed normally.

If you're moving from a smaller Time Capsule to a larger one, you'll follow essentially the same steps, except that you will connect both Time Capsules at the same time, using the old one as the source and the new one as the destination.

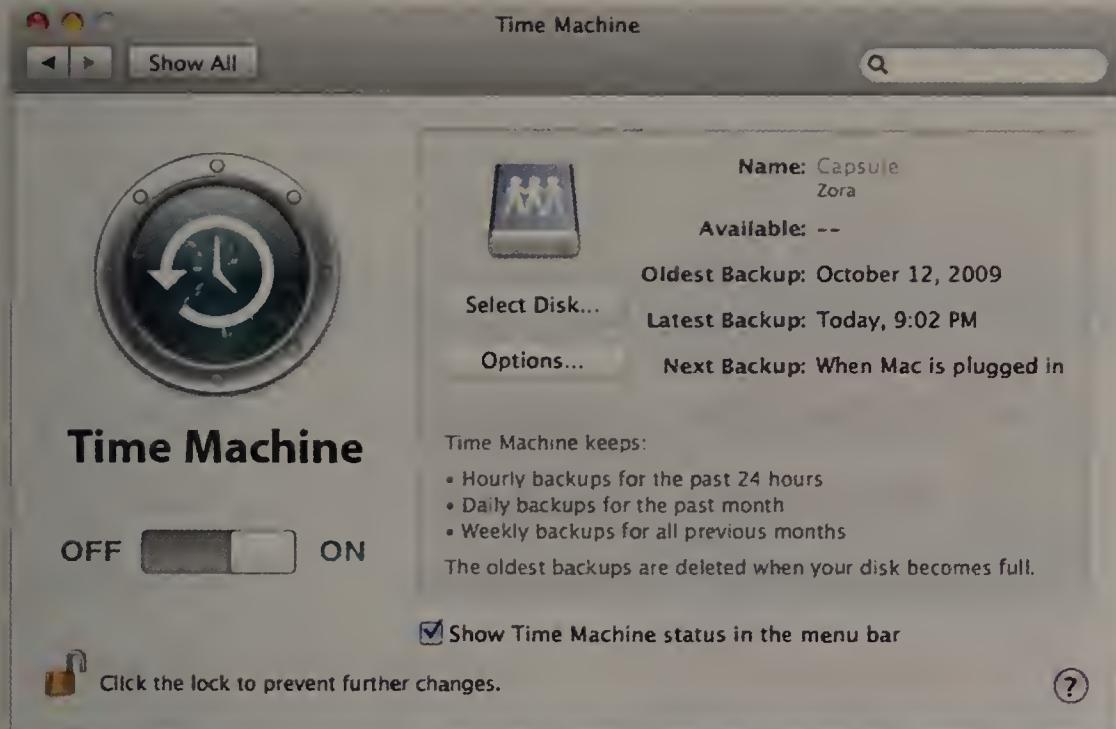
Move to a Larger Local Backup Disk

If you want to relocate your Time Machine backups to a larger (but still local) backup drive, do the following:

1. In System Preferences, open the Time Machine pane and turn off Time Machine.

2. Make sure both your current backup disk and your new disk are connected and mounted in the Finder.

3. Open Disk Utility (in /Applications/Utilities). In the list on the left, select your new disk (the topmost icon, not any indented volume names) and click on the Partition tab. From the Volume Scheme pop-up menu, choose 1 Partition. Click on Options and select either GUID Partition Table (if you're using an Intel-based Mac) or Apple Partition Map (for a PowerPC-based Mac). Click on OK. Enter a name



Adjust Backups To switch from one Time Machine destination, or to turn Time Machine on or off, use the Time Machine pane in System Preferences.

for your new backup volume (your choice), make sure the Format pop-up menu is set to Mac OS Extended (Journaled), and click on Apply. Warning: This erases the entire disk!

4. Click on the Restore tab. Drag your current local backup volume (the indented volume name, not the disk name) from the list on the left into Disk Utility's Source field.

5. Drag your newly attached and partitioned disk from the list on the left into the Destination field. Make sure the Erase Destination checkbox is selected, as it should be by default.

6. Click on Restore, and click Restore again to confirm. Now be prepared to wait while Disk Utility copies the files—this process could take hours or even days.

7. When the restoration is finished, quit Disk Utility. Return to the Time Machine preference pane, click on Select Disk (or Change Disk, in Leopard), and select your new disk as the destination. Time Machine backups should then proceed normally.

Joe Kissell is the senior editor of TidBITS and author of the e-book *Take Control of Mac OS X Backups* (www.takecontrolbooks.com).

Incase Nylon Sleeve

Available in 13-, 15-, and 17-inch sizes in a choice of black, graphite, mustard yellow, or royal purple, Incase's Nylon Sleeve (\$60; goincase.com) is a slim and stylish laptop carrier for anyone who likes to travel light. A neutral business design offers just enough room for a laptop and a few extras, with two smallish but expandable zipped pockets on one side and a pocket secured with a Velcro-like fastener on the other. A velvety lush lining adds both a quality feel and good protection for your

laptop from marks and scratches. Although padded, the build is unlikely to protect your investment from serious knocks; the upside, however, is that you have less weight and bulk to carry on your travels. With concealable nylon handles and an adjustable, removable shoulder strap, the Nylon Sleeve proved comfortable to carry and resisted the wind and rain well when out and about.—NICK SPENCE



Easily Access Recently Used Items

BY KIRK MCELHEARN

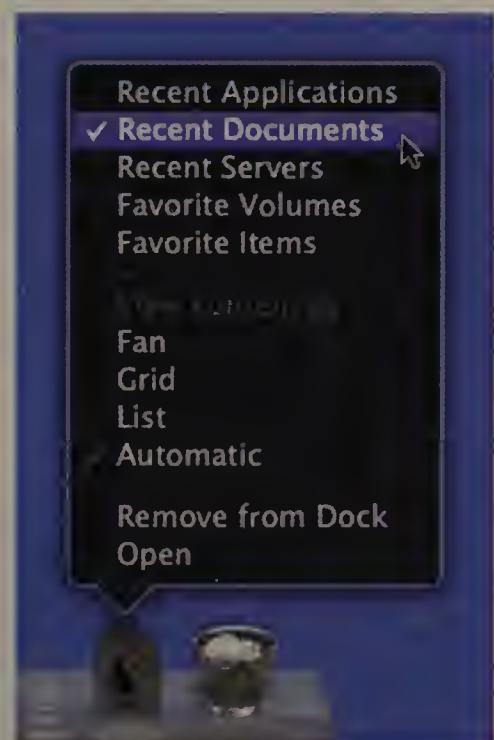
Your Mac is full of files, folders, and applications, and it's always annoying to hunt for the items you need. OS X has many tools that can help you access things you use day in and day out. But one of my favorite ways—in Leopard and Snow Leopard—to get to items I've used recently is from a Dock stack.

Open Terminal (in /Applications/Utilities), and paste in the following command from macworld.com/5923:

```
defaults write com.apple.dock persistent-others -array-add '{ "tile-data" = { "list-type" = 1; }; "tile-type" = "recents-tile"; }'
```

Press Return, type **killall Dock**, and then press Return again.

In the Dock, you'll see a stack that shows (when you click on it) the ten last applications you've opened. Launch an item by clicking on it. Control-click on the stack to choose different items. If you no longer want the stack, drag it off the Dock into oblivion.



Recent Items Dock Stack Choose the type of recent items you want to display.

The Tooltip's Hidden Powers

You can do more with those little yellow rectangles than identify items in toolbars

BY SHARON ZARDETTO

Tooltips—the little yellow rectangles of information that pop up when you hover your cursor over something—do more than just describe the name and function of a button on a toolbar. You can use them to find the full name or path of a file in the Finder, to get a quick summary of a help topic, and more. (Note: Apple now uses the term “help tag” instead of “tooltip” in its documentation.)

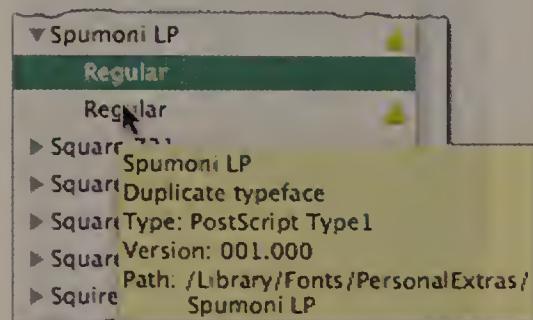
See a File's Full Name

Almost anywhere the Mac shortens a name in a narrow column, you can use a tooltip to display its full name (see “Full Names”). Hover your cursor over the truncated name in a list, a Finder sidebar, or an Open or Save dialog box; in your Apple Mail message list or sidebar; or in the Source list (the sidebarlike area) in iPhoto.

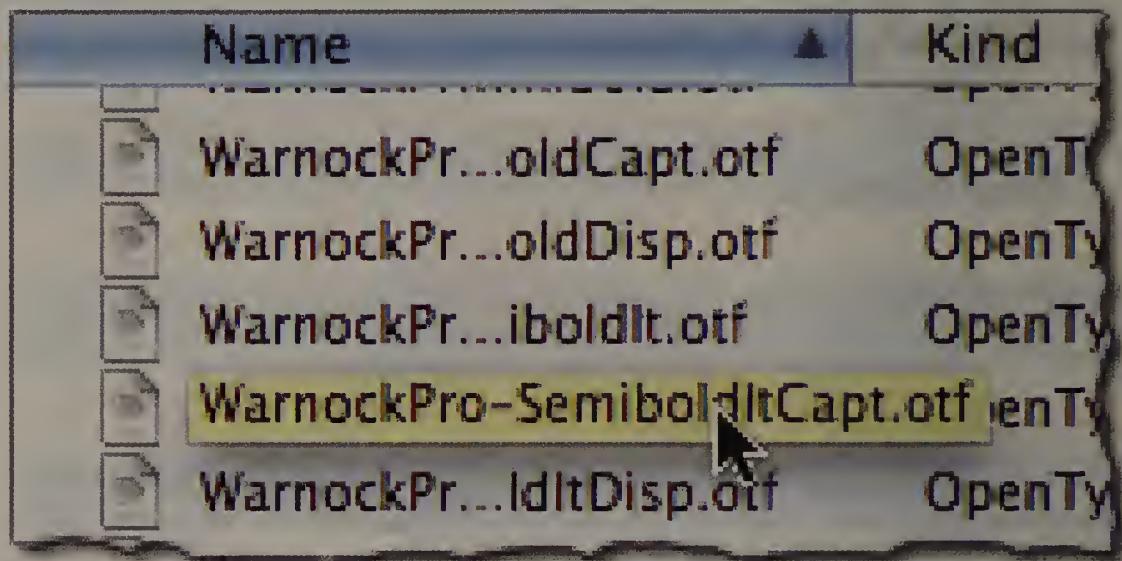
Sometimes doing this will reveal extra information. For example, in the Spotlight menu, a tooltip shows not only the full version of a shortened name, but also the item's file path. In iPhoto, hovering over an album name shows you how many images it contains.

Outwit False Links in Mail

An embedded link in an innocent-looking e-mail message may be labeled ‘Important Info’ but could actually take you to a phony Website. Check the URL of a link by waiting for its tooltip to pop up before you click on the link.



Font Book Details In Font Book, point to a typeface to see a tooltip detailing its font type, version, and location.



Full Names Hover your cursor over a truncated name in a file list or sidebar to see the full name appear in a yellow tooltip.

Quickly View Names of Attachments in Mail

Suppose you receive a message asking for feedback regarding the ‘Solution’ file—but the message comes with six attachments, all of which have truncated names. The quickest way to figure out what’s what is to hover over the icon of an attached file to see its full name, along with other useful information such as its download status. (To see the document contents, click on the document icon to select it, and then press the spacebar to open it in Quick Look.)

Find Contact Info Fast

Spotlight makes it easy to look up a colleague or friend whose name is in Address Book. Activate the Spotlight menu (⌘-Spacebar) and type a name, and a list of possible matches will appear. Often the person’s name is the Top Hit in the menu. Press Return and Address Book will open right to that entry. But if you want the person’s phone number, you don’t have to go that far. Just hover over the name in the Spotlight menu, and you will see all the phone numbers associated with it.

Get Help Fast

You’ve done a search in the Mac Help system. (Choose Help ▶ Application Name

from within the program you need information about.) Now you have a list of topics. But which topic should you check first? It would be easier to decide if you could read more than just a one-line description. Hover your cursor over a topic and a tooltip will appear with a complete description.

See Font Book Information

Sometimes it seems to me that Font Book has more numerous, and more useful, tooltips than any other Mac utility. Want to know how many fonts are in a library or collection without deselecting the current one? Point to the library name and the info appears in a tooltip. Wondering how many typefaces are in a font but don’t want to select it in the Font list and expand it? Hover over the font family name to see the answer.

Say you have duplicate fonts and need to check which might be TrueType and which OpenType, which is the newer version, and where the files are on the drive, all so you can decide which ones to disable or delete. You don’t have to switch to Font Book’s Info view; just point to the typeface for an informative tooltip with all the details you need (see “Font Book Details”).

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FileMaker Pro 11

Popular database tool is even easier to use

BY WILLIAM PORTER

REVIEW

FileMaker Pro 11 is a solid upgrade with one really exciting new feature (charts) and a whole slew of more modest but nonetheless welcome improvements. If you need to share a database, if you are building a relational database, or if you simply need the features found in FileMaker Pro or FileMaker Pro Advanced, then this new version offers Mac (and Windows) users the best combination of power and ease of use.

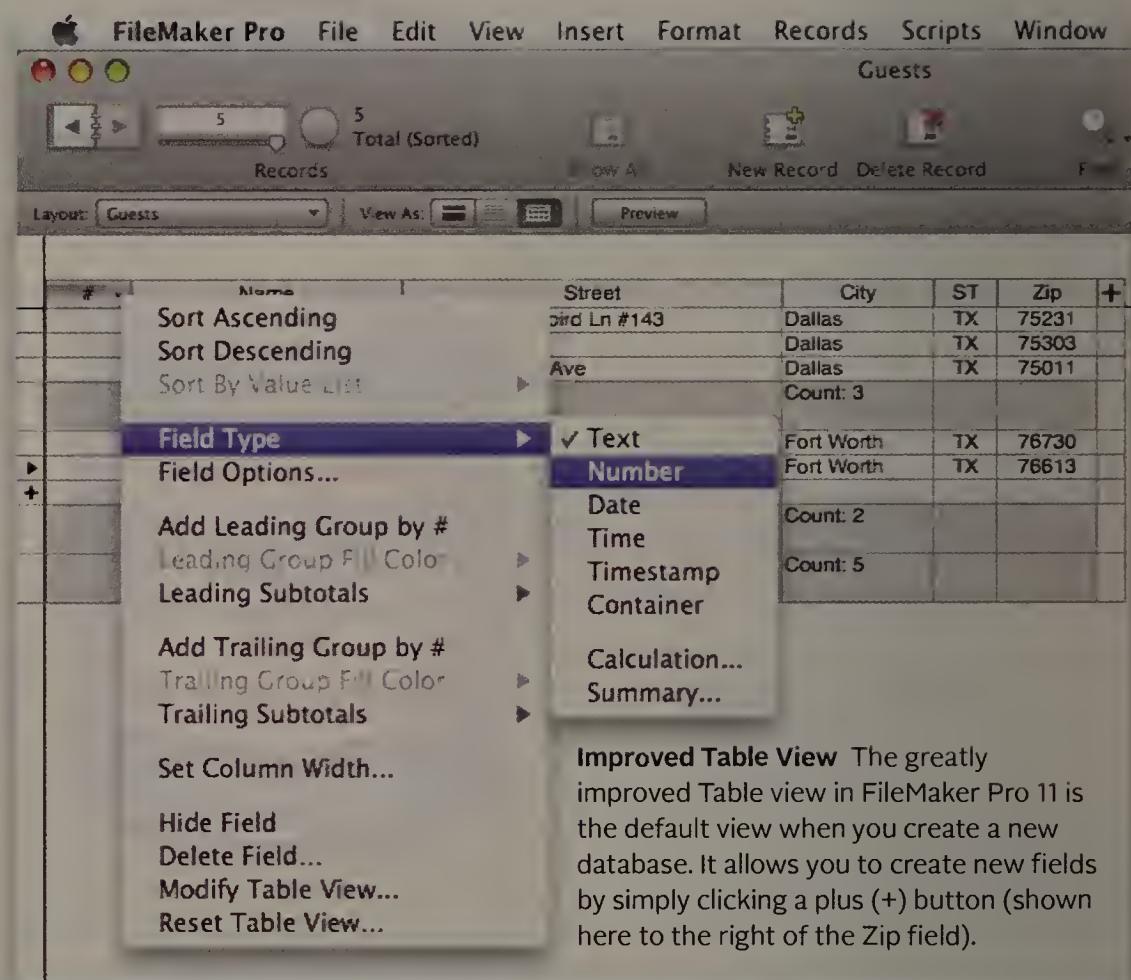
New Chart Tool

Perhaps the most welcome new feature (and the top reason to upgrade) is the ability to make charts. Earlier versions could create charts with the help of third-party plug-ins or through the use of ingenious—but very complicated—calculation techniques. But now charting is available to everybody and is easy to use. FileMaker provides a variety of options that let you visualize data quickly.

Interface Enhancements

The most obvious changes to the user interface in FileMaker Pro are found in Table view, where you see fields as columns and records as rows, much like you would in a spreadsheet. Table view is now the default view for new databases (see "Improved Table View").

Name a new database and start defining fields right in Table view. Since you are actually working in Browse mode, you can start entering data at the same time. Another useful enhancement



Improved Table View The greatly improved Table view in FileMaker Pro 11 is the default view when you create a new database. It allows you to create new fields by simply clicking a plus (+) button (shown here to the right of the Zip field).

to Table view allows you to quickly show or hide fields without having to edit the underlying layout.

Although FileMaker Pro 11 tries to make it unnecessary for you to go under the hood, you will end up in Layout mode sooner or later. When you do, you'll notice the new Inspector, which provides quick access to various property palettes that used to be hidden in a variety of modal dialog boxes. The Manage Layouts dialog box now allows you to organize layouts in folders.

Data Sharing

Two nifty features relate to the exchange or sharing of data. The new Snapshot

Link saves the precise found set, layout, and sort order of your current view in a FileMaker Pro Snapshot Link file (.fpsl). You can send this little file to another user (who must have FileMaker Pro 11 and access to the database), who can open it and instantly see exactly what you were looking at.

The new Recurring Imports feature likewise simplifies something that could be done in FileMaker Pro 10 with a little scripting. FileMaker 11 writes the script for you in response to a couple of simple questions. A Recurring Import is an import that occurs over and over again. You might use it, for example, to update mortgage rates daily.

4½; \$299; FileMaker, www.filemaker.com; full review at macworld.com/5999

PRODUCT WATCH

HARDWARE

HyDisk, from Raidon (www.raidon.com.tw): Storage device will feature both a solid-state drive (SSD) and a hard drive in one mechanism (pricing unavailable).

Powerline AV 500 Adapter Kit (XAVB5001), from Netgear (www.netgear.com): Use these adapters to access a network through electrical outlets (pricing not yet available).

TowerSTOR TS4CT, from Sans Digital (www.sansdigital.com): Four-bay tower enclosure with hardware RAID support lets you hot swap out drives (\$728 to \$1638).

SOFTWARE

DevonThink 2.0, from Devon Technologies (www.devon-technologies.com): Document-organizing software includes smart tagging (\$50).



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REVIEWS

What We're Reviewing
Online This Month



HARDWARE

Epson Artisan 810 △

Epson's Artisan 810 color inkjet multi-function printer has speed and versatility to spare. Though the Artisan 810's text-printing speed was just average at about 7.3 pages per minute, it finished at or near the top in all of our other print, scan, and copy speed tests. Considering the price, however, we expected better overall output quality. On Epson's own photo paper, flesh tones looked warm and natural. On plain paper, all photos had a filmy look. Plain text looked fuzzy and dim. Scans and copies were acceptable despite some general fuzziness; a photo enlargement looked murky. Since you'll need to buy special paper to get better output results, it's nice to know that the ink costs for the Artisan 810 are average or better (macworld.com/5924).

4 1/2; \$300; Epson, www.epson.com

Optoma PK102 ▷

If you want a pico projector that can display bright and colorful presentations all by itself, Optoma's PK102 may be what you need. Weighing 4.4 ounces, the 0.6-by-2.0-by-4.1-inch PK102 is one of the smallest pico projectors we've tested. Despite being roughly the size of a deck of cards, this model packs enough power for solo business presentations for small audiences under low light conditions. The projector is bundled with VGA, USB, and composite (RCA-type) A/V cables for connecting it to any device that has video signal output. To use the PK102 with an iPod or an iPhone, however, you'll need a third-party cable (not included). Alterna-

tively, you can leave the cables behind and use the PK102's built-in media player to project your presentations, photos, and videos. Depending on the brightness mode you select, its battery life per charge is 60 to 90 minutes (macworld.com/5925).

4 1/2; \$250; Optoma, www.optomausa.com

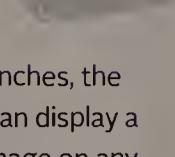
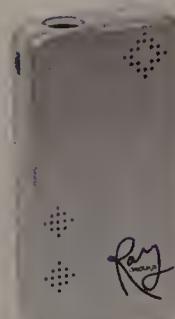
Ray Display's Ray ▷

The Ray, a liquid crystal on silicon (LCoS) pico projector from Ray Displays, features 10 lumens of brightness, a 20,000-hour LED light source, VGA resolution, a 2-hour battery life, and stereo speakers. Measuring 0.7 by 2.3 by 4.4 inches, the 5-ounce (with battery) Ray can display a viewable 40-inch diagonal image on any light-colored surface in subdued light, and even larger sizes in truly dark settings. Overall, the Ray projected videos, photos, and other media fairly well, but it earned better marks for displaying text than for rendering graphics. In an iPod PowerPoint presentation, for example, the Ray displayed bright, legible text in various fonts; but dull, washed-out color hampered its graphics quality. In motion tests, the Ray displayed smooth action throughout a screening of the *Monsters vs. Aliens* DVD, but the projector's muted color palette made the images look less vibrant than they do in the original film. The Ray is worth a look as a no-frills pico projector that displays readable text, if mediocre color quality (macworld.com/5926).

4 1/2; \$229; Ray Displays, www.raydisplays.com

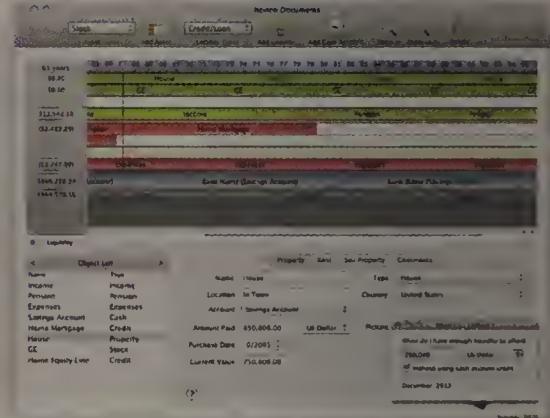
WowWee Cinemin Swivel ▷

WowWee's Cinemin Swivel pico projector is made for watching iPod videos or playing games on the ceiling. Of course, you can point any handheld pico upward to display images overhead, but the Cinemin Swivel does it without requiring



any handholding. Its unique, adjustable, 90-degree hinge lets you swing the lens through a wide arc of display angles while you relax on your sofa. Also, it can handle business presentations for a very small group in a dimly lit room. If you mainly want to use a pico as an Apple accessory, the Cinemin Swivel is a solid choice. You can give an iPod presentation or show an iPhone video right out of the box, thanks to the bundled iPod/iPhone 30-pin adapter. The projector also comes with a composite (RCA-type) A/V cable for connecting to a digital camera, video game console, or other mobile device. In our tests, the Cinemin Swivel earned an overall rating of Very Good for image quality. The projector lost detail in dark areas, no doubt because of its limited brightness (macworld.com/5927).

4 1/2; \$350; WowWee Group, www.wowwee.com



SOFTWARE

BrainDistrict LifeAssets △

LifeAssets 1.0 offers an interesting twist on the way you view and plan for your financial future. While most programs focus on the rearview mirror—letting you look at your actual expenses to see how you've spent your money—LifeAssets tries to set your



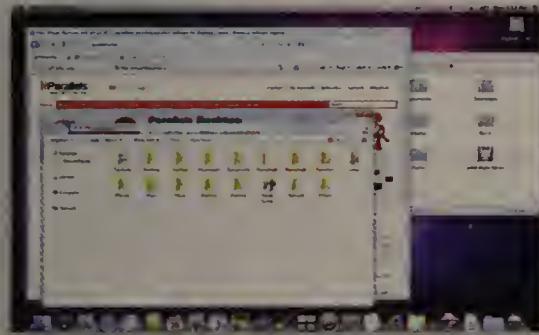
Find It Online

For expanded reviews, type the blue URL at the end of each summary into your browser's address bar.



focus forward, so you can see where your financial future lies. Once you enter your data, LifeAssets displays a linear timeline graph (starting with your current age and running to age 100) that displays all income, assets, and liabilities. The graph attempts to project how much money you'll have at retirement based upon your current assets, how much income you're making, what your pension or 401k is going to produce in the future, and how much your current liabilities are going to steal from your future earnings. While LifeAssets is an interesting financial planning tool, it feels like it should be part of a larger, more full-featured financial app (macworld.com/5928).

4.5; \$50; BrainDistrict, www.braindistrict.com



Parallels Desktop Switch to Mac ▾

If you've just bought your first Mac, a virtualization program can act as a kind of halfway house that allows you to keep your existing Windows software while you get used to the Mac way of doing things. With that in mind, Parallels has a special version of Parallels Desktop designed specifically for switchers. The Parallels Desktop Switch to Mac Edition includes version 4 of Parallels Desktop (it comes with a free upgrade to version 5), as well as a set of video tutorials and a special USB cable that can be used to transfer files from your old PC onto a virtual machine running on the new Mac. The software with extras costs \$100, compared with \$80 if you buy Parallels Desktop on its own. Many switchers will be happy to explore their new Mac without this help, or ease their way into using the standard Parallels Desktop software. But if you're feeling nervous about using Macs for the first time, then the Switch to Mac Edition might be worth the extra money (macworld.com/5929).

4.5; \$100; Parallels, www.parallels.com.

Top Products

YOUR GUIDE TO THE BEST HARDWARE WE'VE TESTED

HARD DRIVES

Desktop

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
iStoragePro iT1 Dock (pictured) www.istoragepro.com	4.5	\$329 (2TB)	quad interface	5843
Rocpro 850 www.roctstor.com	4.5	\$135 (500GB)	quad interface	5397
VR Mini www.caldigit.com	4.5	\$499 (1TB)	quad interface	5396

HARD DRIVES

Portable

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
iStoragePro Pocket iT1PKT72320 www.cidesign.com	4.5	\$199 (320GB)	dual interface	5808
Mercury On-the-Go (pictured) www.macsales.com	4.5	\$138 (320GB, 7200 rpm)	triple interface	4258
Starck Mobile Hard Drive www.lacie.com	4.5	\$80 (320GB)	USB-only	5608

MONITORS

Widescreen

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
324 LCD (pictured) www.lacie.com	4.5	\$799	24-inch display	3896
LP3065 www.hp.com	4.5	\$1100	30-inch display	2509
SyncMaster 22335W www.samsung.com	4.5	\$129	21.5-inch display	5900

PRINTERS

Laser

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
C544DN www.lexmark.com	4.5	\$449	LED, color	4356
Dell 5130cdn (pictured) www.dell.com	4.5	\$1549	LED, color	6009
HL-4070CDW www.brother-usa.com	4.5	\$450	PostScript-compatible	3385

PRINTERS

High Function

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
Artisan 810 (pictured) www.epson.com	4.5	\$300	inkjet	5916
Color LaserJet CM1312nfi www.hp.com	4.5	\$304	laser	5183
LaserJet M1319f www.hp.com	4.5	\$215	laser, monochrome	5480

^a All prices are the best current prices taken from a PriceGrabber survey of retailers at press time. ^b In a browser's address field, typing a find code after macworld.com/ takes you to a product's review or overview.

BUSINESS CENTER

News and Analysis about
Macs in the Workplace

Kerio MailServer Becomes Kerio Connect 7

As of version 7, Kerio MailServer (; macworld.com/5731) has become Kerio Connect. With its ability to handle address book, calendar, e-mail, and to-do services, Kerio MailServer has had a reputation for being an adaptable software package for small to midsize businesses that require only one groupware server. With Kerio Connect, Kerio hopes to expand the appeal of this software to larger companies with

multiple groupware servers.

With the new distributed-domain feature, several servers running Kerio Connect 7 can be combined into a single cluster to efficiently divide up resources and coordinate information. Users connect to that cluster and treat it as if it were a single groupware server, even if one server is in London and another is in Timbuktu.

Kerio Connect 7 also introduces CardDAV access for supported clients such as Mac OS X's Address Book (in Snow Leopard), allowing the systemwide Address Book to sync directly with Kerio Connect's contacts. Server administration is now Web-based and officially supported for Safari, Firefox, and Internet Explorer. Finally, Kerio Connect 7 can set up retention policies to automatically delete old e-mail messages. Pricing begins at \$450 for five users and \$120 for every five additional users.

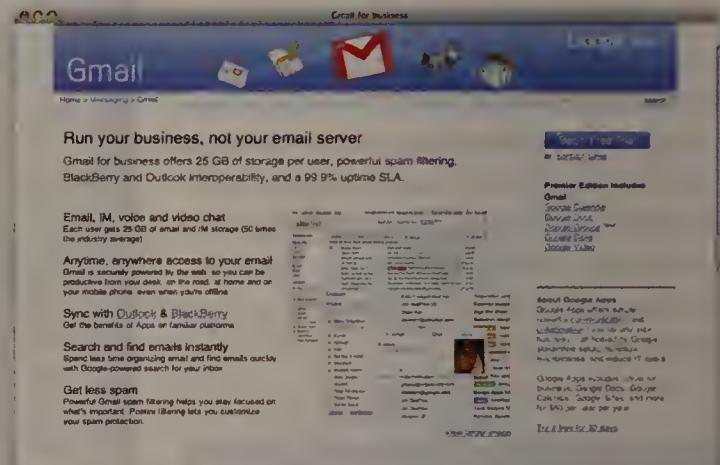
—NICHOLAS BONSACK



Google Covers Apps with Advanced Backup

Google has extended data backup and recovery to all components of the Google Apps communication suite (www.google.com/apps). The company says that this level of protection, both in terms of the amount of data preserved and of service restoration time, is typically affordable only to very large companies and cloud computing vendors.

"Any time you change any data in Apps, whether writing a sentence in a document or changing a cell in a spreadsheet, in the background we go and write that data to multiple servers within one data center and also in other data centers," says Rajen Sheth, Google Apps senior product manager. Regular Gmail, Docs, and Sites accounts are also covered.—JUAN CARLOS PEREZ



Microsoft Patches Excel Security Flaw

Microsoft has rolled out the Microsoft Office 2008 for Mac 12.2.4 Update (macworld.com/5930) and Microsoft Office 2004 for Mac 11.5.8 Update (macworld.com/5931) for its Office suite of productivity tools.

These updates patch a security vulnerability in the Excel spreadsheet application. According to a Microsoft security bulletin, seven privately reported vulnerabilities in Excel could allow remote code execution if a user were to open a specially crafted file. By exploiting those vulnerabilities, an attacker could gain the same user rights as a local user.

There's more to the 12.2.4 update for Office 2008 than just a security patch, however. According to Microsoft's release notes, the update also improves stability by fixing an issue that could cause Excel to close unexpectedly if corrupted fonts are present, if a user inserts a row or value into a calculated column, or if a user drags the

scrollbar when Excel displays trend lines. In addition, the update promises to fix an issue that caused slow performance with certain printer drivers in Snow Leopard, while also fixing an issue in which multiple line values in a single cell appear in separate rows when the contents are saved as a text file and then opened in Excel.

—PHILIP MICHAELS





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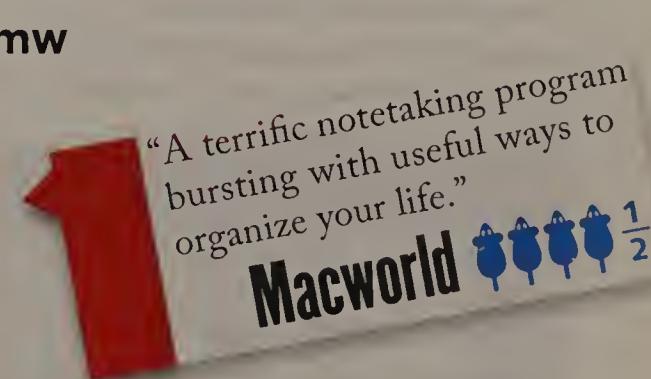
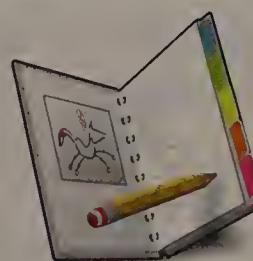
Needs NoteBook Has NoteBook

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TEKSERVE

PLAYLIST

Everything You Need to Know about iPods, iTunes, and Mac-Based Entertainment

The Safety Dance

Our guide to making sure you never lose your precious media files

BY CHRISTOPHER BREEN

Having owned a computer or two in your lifetime, you understand that, like all things temporal, they and their component parts eventually fail. Should that component be the computer's hard drive, you could lose data you've paid for in the form of iTunes Store content—not to mention the sweat for all of the CDs and DVDs you've ripped over the years. Here are some options for backing up your media.

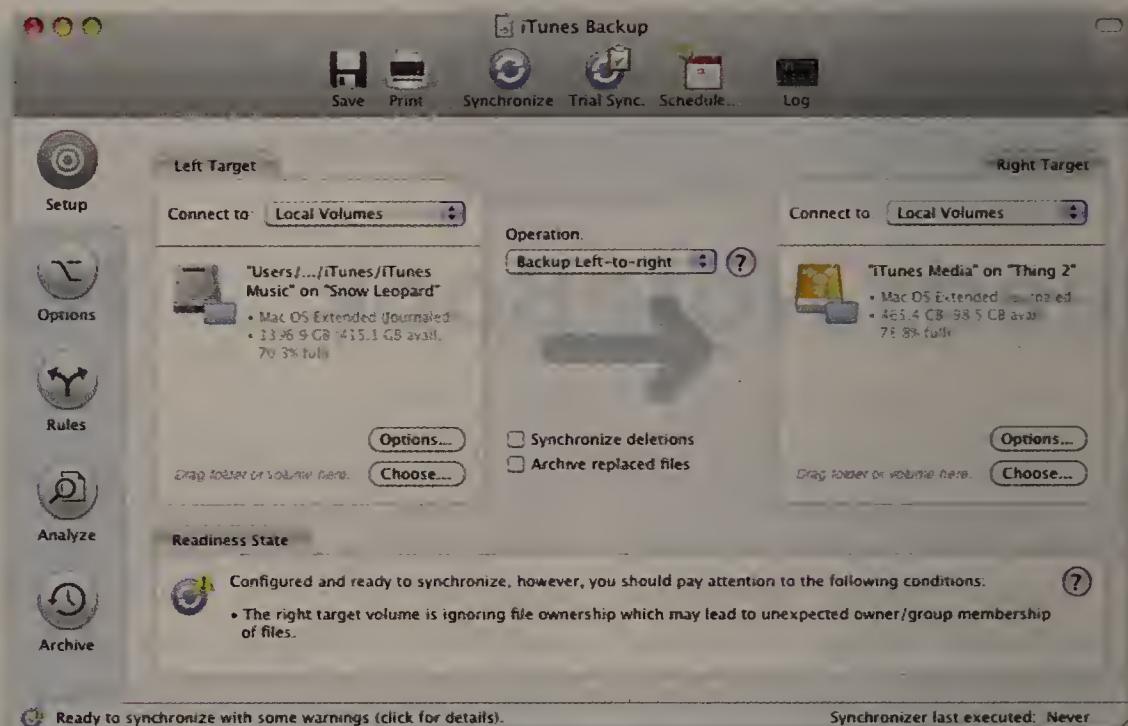
Burn 'Em

In iTunes 9 you can easily burn your purchases to CD or DVD as data. Just choose File ▶ Library ▶ Back Up To Disc, and the iTunes Backup window appears. Within this window you have the option to back up your entire iTunes library and playlists or only your iTunes Store purchases. An adjunct option lets you back up only those items added or changed since your last backup.

Regrettably, iTunes doesn't tell you in an obvious way just how much data this is. There are a couple of ways to find out. The first is to insert a blank CD or DVD. iTunes will check to see how much data it needs to back up and will then display a dialog box that spells out approximately how many blank discs the job will require.

Alternatively, in the example of iTunes Store purchases, choose File ▶ New Smart Playlist and create a rule that reads *Purchased Is True*. iTunes will create a smart playlist that lists all the purchased content in your iTunes library. At the bottom of the iTunes window you'll see how much storage space this consumes.

Although neither iTunes nor the Mac OS supports Blu-ray burning, you can purchase a Blu-ray burner and, with a



Backing Up A utility such as Econ Technologies' ChronoSync can create a master backup of your iTunes library that doesn't change when you delete items from your Mac.

tool such as Roxio's \$100 Toast 10 Titanium (100GB), enjoy the high-capacity storage that Blu-ray discs—25GB or 50GB each—provide to back up your iTunes library. Remember, however, that to access that content in the future, you'll need a drive that can read Blu-ray.

Copy 'Em

A less time-consuming option is to simply copy your iTunes library to another hard drive. The simplest way is to use Time Machine in league with an external drive. As with other data, Time Machine will keep an eye on your media and back it up as you add new content.

You can also back up your library by dragging it to an external drive—by default you'll find the iTunes folder by following this path: *youruserfolder/Music/iTunes/*. (This method will also

back up your iPhone/iPod touch/iPad apps, iTunes library file, playlist info, and so on). The downside is that when you add items to your iTunes library, you must remember to copy those items to your backup manually.

You can avoid this bother by using a synchronization utility like Econ Technologies' \$40 ChronoSync 4 (www.econtechnologies.com) to keep the two folders in sync. When you're creating such a synced backup, it makes sense to create a synced copy that works in one direction only—any files you've changed in, or added to, your iTunes folder will be copied to your backup folder, but any files you've removed from your library will remain in the backup. This ensures that you have a master backup of all your content, even when you've removed large movies or TV shows from your iTunes library after viewing.

Cloud 'Em

If you're a MobileMe subscriber, you have 20GB of storage space to play with. You can use some or all of that space for your iTunes content. You can simply mount your iDisk and drag content to it from your iTunes library; but if you're running OS X 10.4 or later, you can also use Apple's Backup 3 application to do the job. You'll find Backup in the Software folder inside your iDisk. Copy it to your Mac, launch it, choose Plan ▶ New Plan, choose Custom in the sheet that appears, and click Choose Plan. Drag the folder you want to back up to the Backup Items area. Then click the plus (+) button below the Destinations And Schedule area and choose iDisk from the Destination pop-up menu. While this sheet is exposed, you can create a backup schedule to help keep the backup in sync with the contents of your iTunes library.

Or, if your backup needs are modest and money is tight, sign up for a storage service such as Dropbox (www.dropbox.com) or SugarSync (www.sugarsync.com) and take advantage of the 2GB of free storage they offer. If you have a lot of content to back up, you can purchase additional storage or turn to an online backup service (macworld.com/5451).

Pack 'Em on Your iPod or iPhone

Although iTunes doesn't let you copy files back from an iPhone or iPod, a variety of tools allow you to retrieve media from these devices. We recently looked at ten iPod extraction utilities (macworld.com/5798). When choosing such a utility, be sure that it can sync not only your iTunes media back to your Mac, but also your playlists, play counts, and ratings.

Put 'Em Somewhere Else

A backup is only as secure as the location in which it's stored. Should your backup hard drive encounter fire, flood, freeze, or furball, it will be just as dead as the Mac on which the original files are stored. While a fireproof safe is a good start, a safe-deposit box or multiple backups scattered among friends and family is better.

First Look: Kylo Media Browser

BY CHRISTOPHER BREEN

Hillcrest Labs, known for its \$100 Loop pointer—a four-button-plus-scrollwheel wireless input device—has released the free Kylo browser (www.kylo.tv). Based on Mozilla, Kylo is a Mac- and Windows-compatible streaming-media browser intended for the big screen—specifically HDTVs attached to a computer. Unlike media center applications such as Boxee, Plex, and XBMC—which play local as well as Web content—Kylo is solely for playing online content.

Kylo is a living, breathing Web browser—you're welcome to type in any Web address—but it's designed so that you'll rarely have to enter text to visit your favorite media sites. On the Home screen you find 128 large buttons that, when clicked, lead you to such popular media sites as YouTube, Netflix, Amazon Video, ESPN, NBC, CBS, ABC, and Fox (Hulu blocked access soon after launch).

Clicking is what Kylo is all about. If you have a pointing device (Hillcrest would like you to think of its Loop pointer first, naturally, but any mouse will do), just click a button and off you go to the site, which behaves exactly as it would in any other browser. If you choose to enter a Web address, just

click the Address field and a virtual keyboard appears, which you can use to click the address of the site you'd like to visit.

The buttons and text are large enough to read from the couch. If you find the default layout of screen elements too small, you can click on a pan-and-zoom button, which causes controls to appear that let you increase or decrease the size of text and objects on a page.

When you click the Bookmarks button, a Bookmarks sheet appears. Within the sheet, any bookmark you've added will appear in the form of a large preview thumbnail and the name of the page you've bookmarked.

Because Kylo is a true Web browser, you experience everything a browser delivers—both the good and the not so good. This means that on the good side of the ledger, you shouldn't need to worry about sites being incompatible with Kylo. On the not-so-good side is the fact that you have to deal with the design each site offers. Boxee, Plex, and XBMC do their best to present you with just the media a site offers, free of any interface clutter.

If you have a Mac connected to your TV, or simply wish to more easily access this kind of content on your Mac's monitor, give Kylo a spin.



Kylo's Home Screen Launch Kylo and you can click on one of many video sources, as well as enter in a URL to visit a Web page. (Hulu streaming is currently blocked.)

Managing the Classics

Three tips for dealing with iTunes and classical (and other) music

BY KIRK MCELHEARN

I am a fan of classical music. Over the years, I've struggled with efficiently organizing what is now a 50,000-track iTunes library. In the process, I've come up with a few tips that you may find handy for dealing with classical music—and, in some cases, other types of music as well.

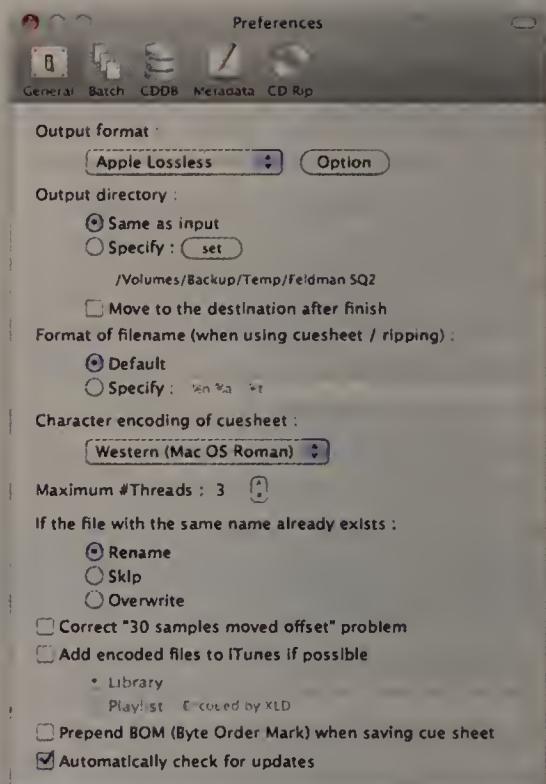
Get FLAC Files into iTunes

The days of 128-kbps music files from download sites is becoming a distant memory. As time has passed, not only have bit rates increased (and DRM faded away), but sites selling music in lossless audio format—especially for classical music—are becoming increasingly common. Most of the sites that offer music in lossless formats sell FLAC files, however, which iTunes does not support

(iTunes instead supports AIFF, WAV, and Apple Lossless files).

It's not that hard to get FLAC files into iTunes, though it does involve converting the files. Luckily, you can do so with several different apps, and without losing any quality in the process. Grab a copy of the free X Lossless Decoder (aka XLD; macworld.com/5953), open its preferences, click the General icon, and choose Apple Lossless from the Output Format pop-up menu. Now pick where you want XLD to save the files it converts (you can even have it add them to your iTunes library or to a specific playlist), and close the Preferences window.

Next, drag the FLAC files you want to convert onto XLD's Dock icon (you can even drag a folder), and let the program

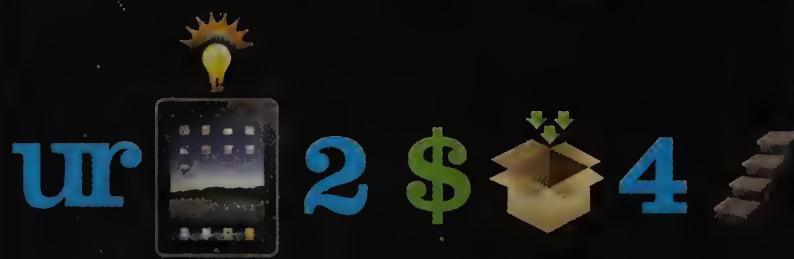


XLD Converting from FLAC to Apple Lossless is a simple process.

do its work. As a bonus, the process retains any metadata with which your FLAC files were tagged.

Your iPad/iPhone Idea to Ca\$h Flow in 4 Steps

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- 2 Zco designs and develops your app
- 3 Zco helps you market your app
- 4 Sit back and collect monthly checks ☺



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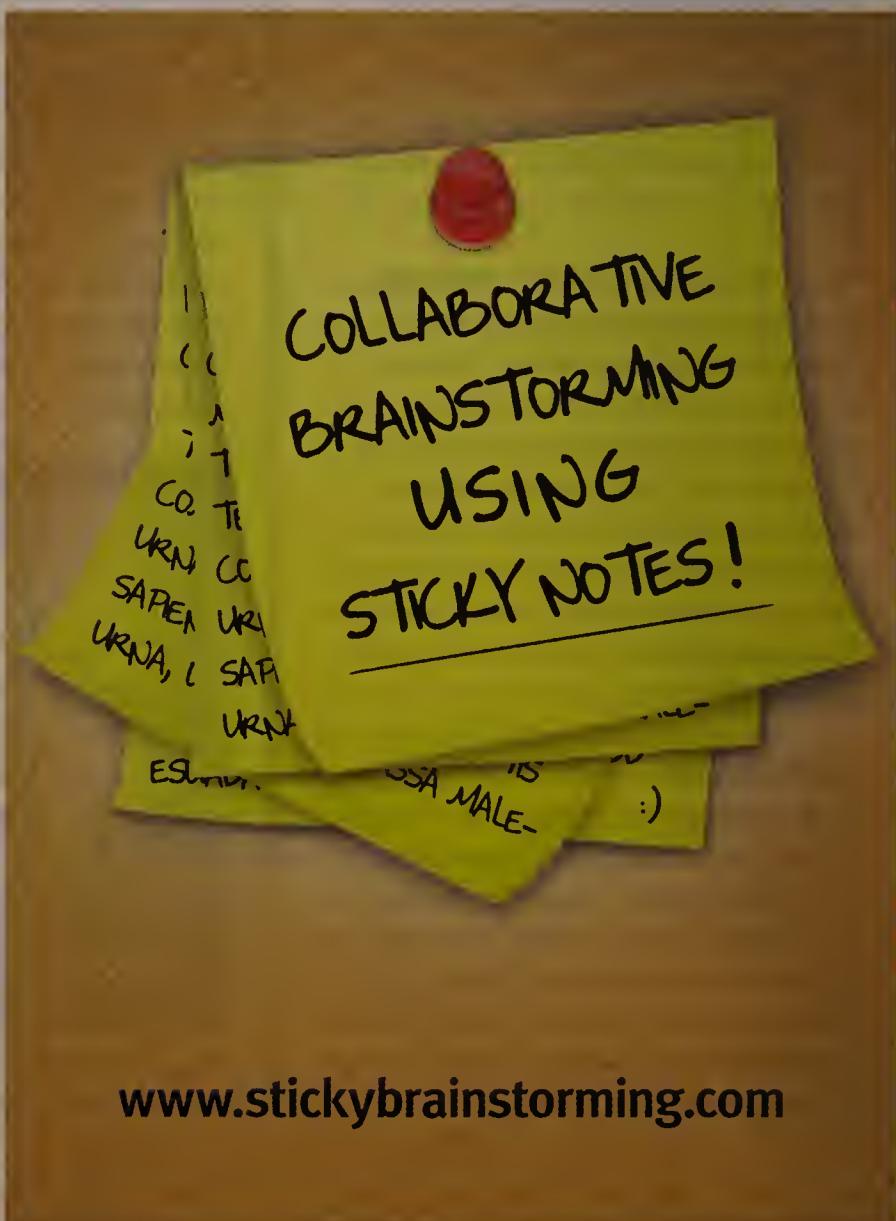
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Rip CDs Accurately

Though iTunes can rip CDs losslessly, you can instead use XLD and take advantage of certain features the program offers to make more-accurate rips than iTunes does. XLD checks with the AccurateRip database (www.accuraterip.com) and rips CDs more carefully than iTunes. These features cause XLD to rip more slowly than iTunes, in most cases, but if you want a really accurate rip, these features will ensure that your files sound just like the original CDs.

Note that although XLD can look up and add a CD's metadata information when you rip, it uses a different database (freedb.org) than the Gracenote database (www.gracenote.com) that iTunes uses. That means the tags might not be as good as those you'd get if you ripped with iTunes. To fix that problem, read on for the next tip.

Get the Right Tags

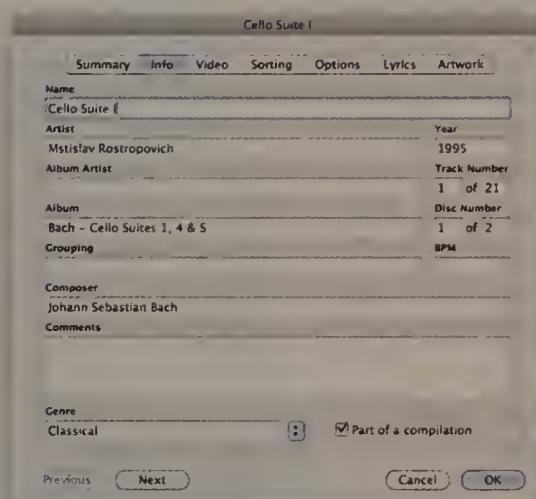
Classical music fans know that tagging their music is essential to organizing,

finding, and playing it. In fact, I probably spend more time tagging my classical CD rips than I do ripping them. In the past, I offered one of my favorite tagging tricks: a way to copy tags from the iTunes Store (macworld.com/5952). This trick can save you time in cases where the Gracenote database that iTunes checks lacks tags for your latest purchase; those tags are less complete than what the iTunes Store shows, or you've ripped your CDs with a different application. When Apple introduced iTunes 9, however, this technique no longer worked: The new iTunes Store layout doesn't allow you to drag tracks to a playlist.

But there is a workaround. Check the exact name of the artist of the CD whose tags you want to copy. From the iTunes Store's Quick Links section (at the top right of the window), click Browse, select Music ▶ Classical ▶ All, and look for the artist's name. In the Albums column, find the album you want to use for tagging, and

click its name. The tracks will display in a list view in the iTunes window. Just select them all, drag them to a playlist, and follow the rest of the instructions in the article mentioned above.

Senior Contributor **Kirk McElhearn** writes about more than just Macs on his blog Kirkville (www.mcelhearn.com).



iTunes Store Tags You can search the iTunes Store to find accurate tag information for albums you've ripped yourself.

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RESYNCable
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Retractable Compact Earphone

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REVIEWS

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HARDWARE

Apple In-Ear Headphones with Remote and Mic ▶

The In-Ear Headphones from Apple are comfortable, fit well, and provide a great overall sound. Though other headphones may feature arguably better bass, few match the design of this set, and all but bassheads will be satisfied with the sound quality (macworld.com/5955).

4 1/2; \$79; Apple, www.apple.com

Ion Audio LP 2 CD ▶

If you have a stack of records you'd like to bring into the digital realm, the Ion LP 2 CD makes it easy, especially in stand-alone, burn-to-CD-without-a-computer mode. The included Mac software ranges from apps that are full-featured but hard to use to those that are pretty but have limited functionality (macworld.com/5956).

4 1/2; \$300; Ion Audio, www.ion-audio.com

Ion Audio Tape 2 PC ▶

Ion's Tape 2 PC is a simple way to convert the audio on your cassette tapes to digital files for use on your computer. The process for editing those imported files, however, can be either complicated or time consuming, depending on which provided Mac app you use (macworld.com/5957).

4 1/2; \$120; Ion Audio, www.ion-audio.com

Jaybird SB1 Sportsband Bluetooth Headphones ▶

The SB1 set is comfortable and tight enough not to slip off your ears no matter how strenuous your workout. But the best news about the SB1 is that it sounds great (macworld.com/5959).

4 1/2; \$89; Jaybird, www.jaybirdgear.com

Maximo iP-HS5 ▶

The excellent sound quality, numerous accessories, solid design, good remote and microphone, and great price make Maximo's iP-HS5 earphones a winning product (macworld.com/5960).

4 1/2; \$80; Maximo, www.maximoproducts.com



performance puts it on a par with similar headphones, the Vibe II costs more than much of its competition. Still, between the design, materials, accessories, and strong bass, you know exactly where your extra money is going (macworld.com/5962).

4 1/2; \$120; V-Moda, www.v-modam.com

SOFTWARE

TuneUp Media TuneUp ▶

TuneUp's software for cleaning up unidentified tracks, mislabeled albums, and missing artwork in your iTunes library is simple, comprehensive, and effective—but it has a few rough edges and can get overwhelmed by big collections. Demo the free version to see if the app is worth the upgrade (macworld.com/5963).

4 1/2; Lite, free; Annual, \$20; Gold, \$30; TuneUp Media, www.tuneupmedia.com



Ultimate Ears MetroFi 220vi ▶

The 220vi's sound quality is easy to like: relaxed and refined, with a warm balance that doesn't sound bloated. Though there are elements of the 220vi's design that could be improved, the sound quality makes these earphones easy to recommend (macworld.com/5961).

4 1/2; \$90; Ultimate Ears, ultimateears.com



V-Moda Vibe II ▶

The Vibe line is known for strong bass, and the Vibe II is no exception. But while its midrange



iPods: Current Lineup

PRODUCT	SPCS	RATING	PRICE	DISPLAY	PERFORMANCE	FIND CODE*
iPod Classic	160GB	4 1/2	\$249	2.5-inch color	36 hours of music playback; 6 hours of video playback	5262
iPod Touch	8GB	4 1/2	\$199	3.5-inch color	30 hours of music playback; 6 hours of video playback	3864
	32GB	4 1/2	\$299	3.5-inch color	30 hours of music playback; 6 hours of video playback	5257
iPod Nano	64GB	4 1/2	\$399	3.5-inch color	30 hours of music playback; 6 hours of video playback	5258
	8GB	4 1/2	\$149	2.2-inch color	24 hours of music playback; 5 hours of video playback	3867
iPod Shuffle	16GB	4 1/2	\$179	2.2-inch color	24 hours of music playback; 5 hours of video playback	3868
	2GB	4 1/2	\$59	none	10 hours of music playback	5267
	4GB	4 1/2	\$79	none	10 hours of music playback	5268

* All prices are Apple's prices. * In a browser's address field, typing a find code after macworld.com/ takes you to a product's review or overview.

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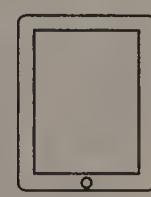
Previous Track: Triple Click

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Voice Memos, Voice
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tapLINE II™
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HOT STUFF

What We're Raving about This Month



Harvard Comes to iTunes U

Want an Ivy League education but don't want to pay Ivy League prices? That's not exactly what you'll get from Harvard's offerings at iTunes U, but you're sure to find plenty of quality, Harvard-produced content at no cost to you. Following in the footsteps of universities such as Yale, Stanford, Brown, and San José State, Harvard has uploaded a series of courses, classes, interviews, and performances taped right from its very own campus onto iTunes U—perfect for a cerebral commute. Highlights include the complete *Justice: What's the Right Thing to Do?* series with Michael J. Sandel, produced with PBS affiliate WGBH Boston; a series of 58 audio interviews with Harvard Press authors; Conversations in Public Health, which covers everything from the effects of coffee to the eradication of polio; the John F. Kennedy Jr. Forum section featuring talks from world leaders and ambassadors; and an Arts & Culture section with footage from performances by cellist Yo-Yo Ma and the Harvard Quintet (itunes.harvard.edu).—NICHOLAS BONSACK

Beatles MusicSkins

The Beatles are coming to your iPhone or iPod. Well, to the outside of it, at least. MusicSkins, maker of decorative "skins" for mobile devices, recently became one of the few companies granted licensing rights to use Beatles imagery. As a result, your iPod or iPhone can show your love for the Fab Four's music: For \$15, you can clad your device in artwork from albums such as *Abbey Road* or *Yellow Submarine*, or you can choose the band's logo or an image of the four lads (www.musicskins.com).—DAN FRAKES



iTunes Store 'Bookmarks'

Did you know that you can drag any link in the iTunes Store to your desktop, where it turns into a Web Internet Location file? If this link goes to a file compatible with iTunes Preview, double-clicking the file opens the corresponding page in both iTunes Preview and iTunes itself. If the link is related to video—a movie, a movie genre, a TV show, or a TV show genre—iTunes will open to the corresponding page. You can create a bunch of these files and add them to your browser's bookmarks collection. When you're in the mood to explore your favorite areas of the store, just select one of these bookmarks in your browser (www.itunes.com).—CHRISTOPHER BREEN



iLuv iMM178 Vibe Plus

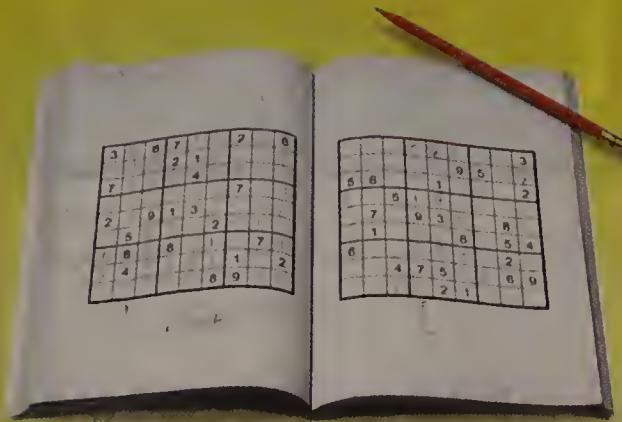
If no mere auditory alarm can rouse you from your slumber, perhaps you should consider iLuv's iMM178 Vibe Plus iPhone/iPod alarm clock. Thanks to what the company calls a "bed shaker"—a small device attached to the \$100 iMM178 that you place in your pillow or on your mattress—you can be awakened with a bit of a jolt. The shaker also serves as a speaker (www.i-luv.com).—NICHOLAS BONSACK



APP MAGNETS

If you can't get enough of the iPhone OS's beautiful icons, check out Jailbreak Collective's \$13 App Magnets. This set of 18 stylish epoxy magnets inspired by (meaning it's different enough, in an artsy way, that Apple probably won't sue) the iPhone's app icons lets you post your real-world notes on your refrigerator. Each 7/8-inch-square magnet mimics one of the iPhone's stock apps but uses original artwork instead of Apple's actual icons. Want to keep your favorite takeout menu within easy reach? Now there's an app for that, too (www.jailbreakcollective.com).—DAN FRAKES





FUN LIKE SUDOKU *except you end up* SPEAKING JAPANESE.

Watch anyone solving a Sudoku puzzle and you see a brain on fire: eyes transfixed, pencil (or pen for the audacious) skittering across the squares, a number scribbled in place, done! Surprisingly, what looks like work is actually fun. Not so surprising say cognitive scientists because your brain loves solving puzzles. That's how it learns. It thrives on the bursts of pleasure that are part of the brain's reward system when you solve problems and challenges.

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BY DERRICK STORY

Many DSLRs, and a handful of compacts, can shoot *tethered*, meaning that you connect your camera to your Mac via a USB cable and then control the camera remotely. With this setup you can save files directly to your hard drive, preview the images on the computer screen, and control your camera from afar.

When to Tether

Tethered shooting is useful for situations when handheld photography isn't ideal. If you want to shoot birds (macworld.com/5986) visiting a feeder, for example, but don't want to scare them off, put the camera on a tripod and snap the pictures from your Mac a safe distance away.

Tethering is also handy when you need to position a camera in an awkward location, such as up high. Some studio photographers use tethering to show clients large image previews on the monitor as they shoot images. Finally, tethering is helpful when your shots create large files and you want to save them directly to your hard drive instead of constantly swapping memory cards.

Tethering is primarily used with DSLRs, though a handful of compact cameras, such as the Casio EX-F1 (macworld.com/5987) can also do it. Read your camera's specs carefully before purchasing to make sure that the necessary Mac software is included with the hardware.

Use the Right Software

With the right software, tethering is very easy. Canon includes EOS Utility, its application for remote-control photography, with its new DSLRs. Connect your



Powerful Connection Your digital camera and Mac can work together to capture images as well as display them.

Canon DSLR via its USB cable, launch EOS Utility, and choose Camera Settings/Remote Shooting. Click the Remote Live View Shooting button, and you'll see the world through your camera's lens on your Mac's display. Here you can change the camera settings, such as exposure compensation, white balance, and ISO.

You can tether Nikons, but those DSLRs don't come with the necessary software. You can buy Nikon Camera Control Pro 2 (\$180; macworld.com/5988) for remote shooting, or try a third-party application such as Sofortbild (payment requested; sofortbildapp.com). You can also use Photoshop Lightroom ($4\frac{1}{2}$; \$299; macworld.com/3873) with two free plug-ins from Mountainstorm: Lightroom-Tether and StudioTether (macworld.com/5989). You can also use Aperture 3 (macworld.com/6025) to tether certain Nikon and Canon cameras to your Mac.

Other camera brands also support

tethering with proprietary software, such as Olympus Studio (\$100; macworld.com/5990). If you're shopping for a new DSLR you want to tether, be sure to investigate the software options available to you before making your purchase.

iPhones Get In on the Action

DSLRs don't get to have all the fun. You can also tether your iPhone to your Mac with the help of Aperture. You don't get the remote-shooting function, but the images you take with the iPhone's camera will download directly to the Aperture library of your choosing for instant viewing and storage. If you don't want to manually fire the camera on your tethered iPhone, you can use software such as Joby's free Gorillacam app (macworld.com/5909) to set up interval shooting.

You can also use an iPhone or iPod touch as a remote control for tethered Canon and Nikon DSLRs, using DSLR



DSLR Camera Remote Control your camera from your iPhone.

Camera Remote (macworld.com/5991). The pro version (**4.5**; \$20) lets you use your iPhone to change camera settings, view captured images, and look through your camera's viewfinder. With the lite version (**4.5**; \$2), you can trigger your camera from far away if your Mac and iPhone are on the same Wi-Fi network.

Share Images on a Network

If you're running Snow Leopard, you can share your tethered DSLR or iPhone with other Macs on your network. Open Image Capture, select the connected camera under Devices, and then check the Share Camera box in the lower left corner. Go to another Snow Leopard Mac on the network, launch Image Capture, and you'll see the camera in the Shared list. You can view images on the camera's memory card and copy them to the Mac.

There are many alternatives to holding your camera and pressing its shutter button to record an image. For those situations where a hands-on approach isn't practical, tethered capturing can be a great alternative.

Senior Contributor **Derrick Story** teaches photography on Lynda.com and publishes a weekly podcast at thedigitalstory.com.

Be a Better iPhoneographer

BY HEATHER KELLY

The App Store boasts more than 3000 photography apps, and that number is growing every day. Sorting through and testing each new release—every faux film filter, cropping utility, and tilt-shift tool—could be a full-time job. Blogger and iPhone photographer Glyn Evans narrows it down for you on his site iPhoneography.com.

Even with the constant influx of new apps to test, Evans still has a few favorites that he uses:

The latest craze among vintage-film-loving iPhoneographers is **Hipstamatic** (**4.5**; \$2; macworld.com/5933; see page 26). This app takes the "film look on camera phones" fad a step further, giving your photos an unpredictable (and irreversible) filmlike quality by turning your iPhone screen into a virtual "vintage film" camera with interchangeable film, flash, and lens options. You can purchase additional "equipment" from within the app. All told there are 216 possible effect combinations.

An instant photo autocorrector, the **Perfectly Clear** app sharpens and brightens any iPhone photo (\$3; macworld.com/5922). The real satisfaction of Perfectly Clear is

seeing the split-screen, before-and-after versions of your image. What you thought was a decent shot before suddenly looks dingy compared with the improved version. You can adjust settings including exposure, sharpness, and contrast.

AutoStitch Panorama (\$3; macworld.com/5938) and **Color Splash** (\$2; macworld.com/4758) are both wildly popular tools. Each app does exactly what its title suggests. AutoStitch creates panoramas from a series of overlapping iPhone photos, and Color Splash desaturates your image and then allows you to pick which colors to add back.

There is a daunting number of black-and-white-photo apps in the App Store. Evans has two favorites he uses on his images: **Spica-Super Monochrome** (\$1; macworld.com/5993) turns pictures into grainy, high-contrast, black-and-white shots that look as if they were taken with a film camera. **Vint B&W** (macworld.com/5994) is a basic black-and-white app that creates nice tones and takes good, low-light shots.

Evans has teamed up with developers to create his own iPhone app, **Format126** (macworld.com/5995). The app's primary function is to crop images into a perfect square (like the square-shaped 126 film format), though it also includes a collection of film filters and effects.



iPhone Autocorrect Instantly improve dim iPhone images with Perfectly Clear.

Memory Card Maintenance

Learn the best ways to upload photos, delete pictures, and maintain your memory card

BY DAVE JOHNSON

Flash memory cards hold your digital photos until you have a chance to get them onto your Mac for more-permanent storage. Whether you are just getting started in digital photography or have had your camera for years, these are some important tips for how to handle your camera's memory cards.

Don't Delete Photos in Camera

As a general rule, using the camera's Delete button to prune unwanted photos from your memory card is a bad idea.

First, it takes precious battery life to review and delete photos from your camera. Would you rather delete a few bad photos or have enough juice to shoot some more pictures?

Second, it's really hard to tell if an image is good or bad on the camera. The LCD is so small—and the overall brightness and colors so inaccurate—that you're better off discarding unwanted photos on your computer, when you have the benefit of seeing them on your monitor.

Third, you run the risk of accidentally deleting a photo you want to keep when handling the awkward controls of your camera. You might not notice that you just deleted a great photo of Elvis disembarking from a UFO, and that would be a shame. Also, if you make a mistake during the deletion process, it's easier to undo a deletion of a photo on the computer—you just retrieve it from the Trash. To recover a deleted photo from a memory card, you need to use a photo-recovery program.

It's best to transfer all photos from your camera to your Mac, and then delete unwanted photos from your Mac.

Clear Your Card Regularly

Once you have copied your photos from your memory card to your computer, where they will presumably be backed up, you can clean up your memory card.



Care for Your Cards Once you have chosen the best memory card for your camera, the next step is knowing how to take proper care of it.

There are many ways to reformat a card. You can open the card in the Finder, select all the files and folders, and press Delete. Another option is to return the memory card to your camera and press the button or menu option to delete all your photos. This is essentially the same as using the Finder to delete the photos. The advantage to this approach is that if you have "protected" any photos (generally, by using the button with the key symbol on your camera), they will remain on the card.

You can also format the card. Memory cards are like hard drives in that they get fragmented when you repeatedly store and erase lots of files. You can't defragment a memory card, but formatting achieves the same purpose. It can also help prevent data corruption on cards used in multiple cameras. Every camera has a formatting command built in, and formatting a memory card takes only a few seconds.

Some people format their memory card after each and every photo session. You can do that—there's no harm in it—but if you delete your photos by using your camera's Delete button rather than its Format command, it's a good idea to format your card occasionally, such as after every five or six times you download and delete your photos.

Have a Spare

It's a good idea to have more than one memory card. Memory is pretty cheap, so you can carry a second or third card in your card case just in case. A second card eliminates the need to selectively delete photos on the fly, or to reduce a photo's size or quality to cram more on a card. A spare card can also rescue you when your card fills up, or on those rare occasions when your memory card fails.

Know Your Card's Life Expectancy

Memory cards store a massive amount of information, with no moving parts. That means you can drop them, sit on them, even accidentally run them through the washing machine and most of the time they'll keep on ticking. Nonetheless, they're not indestructible, and they have a limited lifespan.

Memory cards can be written to a set number of times and will eventually stop working. Expect your card to work for about eight to ten years. On the front of the card, write the month and year that you enter each memory card into service. As the cards approach their expiration dates, recycle and replace them. They're cheap enough that it's better to buy a new card than lose a slew of photos because you waited too long.

She accidentally deleted her photos.



She has Carbonite Online Backup.

Carbonite makes it easy and affordable to securely back up your computer files – and get them back if they're ever lost. Your files are automatically encrypted and saved to our secure, offsite data centers. Carbonite works on your Mac or PC. Setup is simple. And with our remote access feature, you can retrieve your files from anywhere – even on your iPhone with Carbonite's free app. Try Carbonite Online Backup FREE for 15 days at Carbonite.com.

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It happens all the time.
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Your pulse races. Hours of lost work.
Years of photos. Your favorite music.
Gone, in an instant.
Unless you have Carbonite.

CARBONITE™
Back it up. Get it back.™

How to Buy a Tripod

BY BEN LONG

No matter how much you spend on photo gear, to help you get a great shot, often a simple tripod is what makes the difference between a successful shot and a blurry smear. Here are some factors to consider when shopping for your perfect tripod:

All-in-One or à la Carte? You can buy a tripod that's a single, complete package with legs and a head, or you can buy a set of legs and a head separately. With separate components, you can buy a head you like, and multiple tripods.

Pan/Tilt versus Ball Head At the top of the tripod is a head, which contains a mount for your camera and controls for moving the camera around. In general, a head fits into one of two categories: pan/tilt and ball. Pan/tilt heads are typically used for shooting video, because you can lock each axis (tilt, pan, and roll) independently.

For still shooting, this control isn't normally needed, which is why a ball head usually makes more sense. A ball head—just a ball and socket joint—is often more durable than a pan/tilt head. Ball heads have a stability advantage as well—because of their extremely simple designs, even inexpensive ball heads are less likely to move once you lock them down. Pan/tilt heads are prone to drifting.

Size, Weight, and Height Balancing features with size and weight is a main concern when choosing a tripod. Fancier materials such as carbon fiber or magnesium alloys can greatly reduce weight, but you'll have to pay more for them. Height is important too—ideally, you don't want to stoop to use your tripod. If you can get one that raises all the way to eye level, you'll be more comfortable. However, a taller tripod won't collapse to as small a size. Also keep in mind that compact tripods can take a little longer to set up.



Maximum Load Capacity Every tripod and head has a limit to the weight it can support. Consider the heaviest thing you'll want to put on the tripod, which is usually your biggest SLR with its biggest lens. Bear in mind that a tripod that can hold more is also a physically larger and heavier tripod.

Other Features There are other important details to consider. Do the tripod legs use a twist clamp or a flipping lever? Play with each to figure out which you like better. Some tripods have an additional column that rises up out of the center to provide more height. If you opt for a center column, check to see if it has a weight hook that allows you to hang your camera bag or a sandbag, to gain more stability.

If you want to shoot straight down, get a tripod that allows you to place the center column in the head upside down or to remove the center column and insert it into the head so that it's parallel to the ground.

Finally, what thread size does the tripod use? If your tripod head doesn't use the same size screw as the top of your tripod, you'll need to get a small shim to serve as an adapter.

Balancing all of these options can be tricky and costly. This is another reason to opt for a separate tripod and head. Being able to swap out components as you learn can make it easier to adapt your kit as your needs change.

Make Everyday Photos Pop

BY GAVIN STOKER

These tips will make your photos of common subjects look extraordinary.

Babies For better pictures of babies, get down on their level instead of hovering above. Since babies don't excel at staying still, switch your camera to continuous shooting or sports mode. Fast bursts will help you avoid a blurry baby, and increase your chances of catching fleeting emotions—like a smile.

Landscapes Because you're reliant on natural light when photographing landscapes, time of day is key. Dawn or dusk, often called the "golden hours," are ideal because the light is warmer and there are fewer people around. Follow the rule of thirds: Imagine your shot divided up by three vertical and horizontal lines and frame your image in sections. Don't feel like you have to take all landscape photos horizontally—try some vertical shots.

Buildings Man-made structures offer a wealth of opportunities for playing with angles and viewpoints. Look up for a sense of scale, or down to make people look toylike. You may be tempted to take wide shots, but focusing on details can produce more-interesting images. Play with light, such as the sun reflecting off glass. Another great composition trick is finding frames within your frame, such as windows and doorways.

TRIPOD PHOTOGRAPH BY PETER BELANGER



Change Your View Getting down on your baby's level can make a ho-hum image more interesting.

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Bose.com/headphones

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REVIEWS

Hardware, Software, and Accessories
for Making and Managing Photographs



HARDWARE

Ricoh GXR △

The small Ricoh GXR is a new kind of interchangeable-unit camera system. The camera body has a high-resolution 3-inch LCD screen, controls, a pop-up flash, and a padded grip. The lens, chip, and image processor come combined in a separate slide-on unit, clicking into place on the body. Because there's no sensor in the body, the potential for expansion is great. But getting set up doesn't come cheap. The basic body is \$549, but then the 24mm to 72mm zoom unit costs \$440. Even the most affordable combination costs nearly \$1000. The GXR is for someone who already owns a DSLR but wants a more portable alternative that offers picture quality rivaling (or approaching) SLR quality (macworld.com/5996). ; body only, \$549; Ricoh, ricoh.com

Epson PictureMate Show PM 300 ▽

The PictureMate Show PM 300 is a snapshot printer that takes only 4-by-6-inch paper. It features an integrated digital frame, giving customers two products in one. Insert a memory card or key drive, or upload photos to the printer's 270MB of internal memory, and the PictureMate Show can display them on its 7-inch, WVGA color LCD. A dozen slideshow formats let you incorporate a clock, a calendar, and other effects. You can also print, of course, and



the PictureMate Show prints color photos in as fast as 1.4 pages per minute, with natural fleshtones, vivid landscapes, and attractive objects (macworld.com/5905). ; \$300; Epson, www.epson.com

Sony A230 ▷

At about a pound, the A230 is currently the lightest Sony single-lens reflex camera. It's also a little light on features at first glance. Aimed at beginners, this 10.2-megapixel SLR has a retro look and an on-screen help guide on its 2.7-inch LCD. For example, it shows the effects of adjusting shutter speed and aperture. The camera automatically focuses when it

detects an eye coming level with its viewfinder. Photographers on a budget will find that the A230 is one of the most affordable SLR kits around. Though it may be less sophisticated than other models, that's not necessarily a bad thing given its target market. The A230 is a good starter option for photographers on a budget who aren't using another camera's lens system (macworld.com/5997). ; \$450; Sony, www.sonystyle.com



Top Products

YOUR GUIDE TO THE BEST HARDWARE WE'VE TESTED



DIGITAL CAMERAS

SLR

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
E-600 www.olympusamerica.com		\$750	12.3-megapixel	6013
EOS 7D www.canon.com		\$1620	18-megapixel	6014
K-x (pictured) www.pentaximaging.com		\$449	12.4-megapixel	6012



DIGITAL CAMERAS

Point-and-Shoot

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
Cyber-shot DSC-WX1 (pictured) www.sonystyle.com		\$269	10.2-megapixel	6015
PowerShot S90 www.canon.com		\$372	10-megapixel	6016

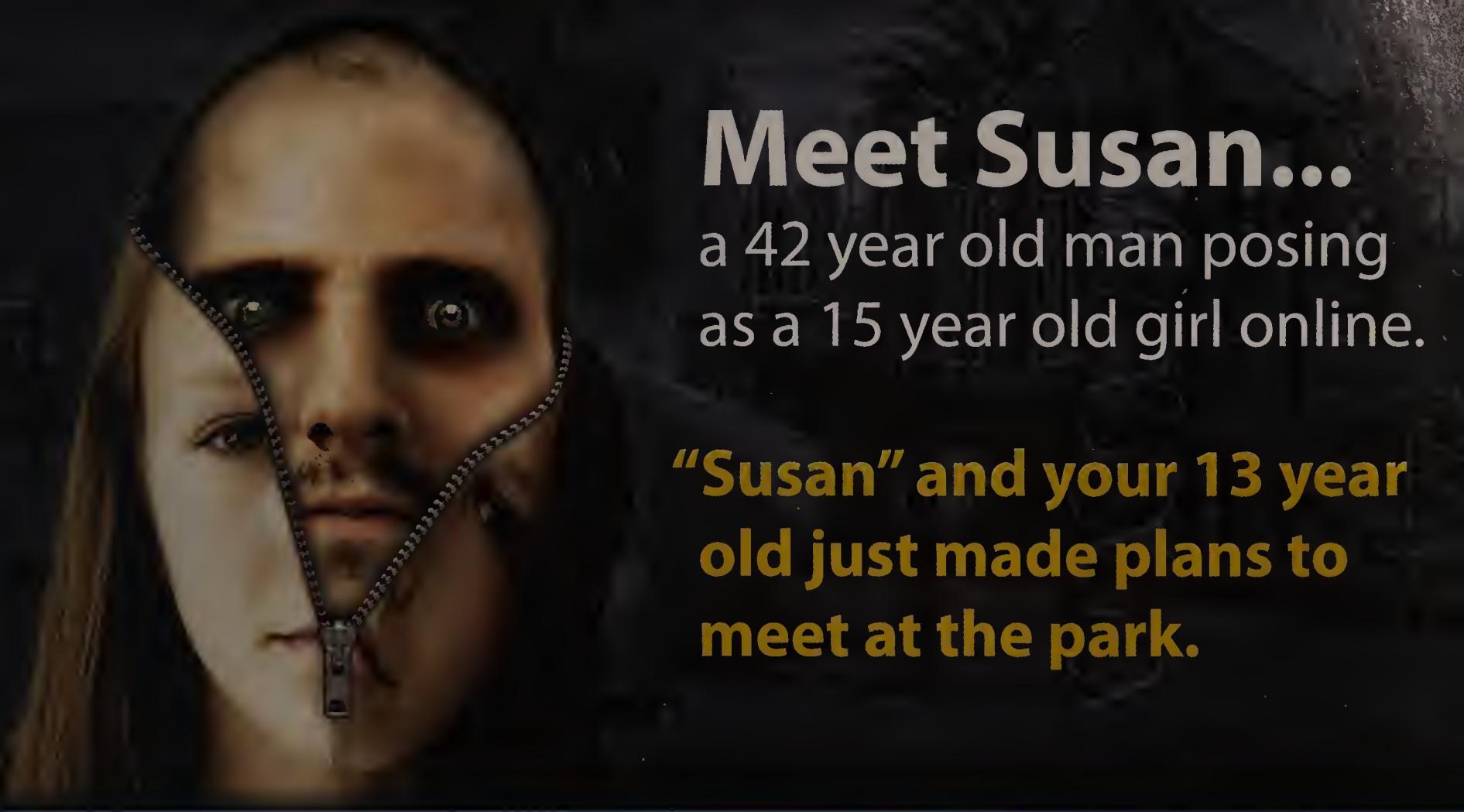


PRINTERS

Inkjet

PRODUCT	RATING	PRICE ^a	TYPE	FIND CODE ^b
Officejet Pro 8000 Wireless (pictured) www.hp.com		\$119	document, photo	6017
PictureMate Dash PM 260 www.epson.com		\$180	snapshot, photo	5609

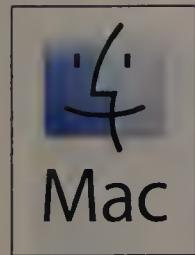
^a All prices are the best current prices taken from a PriceGrabber survey of retailers at press time. ^b In a browser's address field, typing a find code after macworld.com/ takes you to a product's review or overview.



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HOT STUFF

What We're Raving about This Month



Unleashed GPS

When you take your camera out and shoot a bunch of pictures in multiple locations, say during a cross-country road trip, remembering exactly where you took a particular photo can be tricky. Fortunately, you can get your Nikon SLR to remember the exact location for you thanks to Unleashed, a tiny module that attaches to your Nikon D200, D300, D300s, D700, D2X, D2Xs, D2Hs, D3, D3X, D3s or Fuji S5 Pro.

Unleashed connects directly to a port on the front of your Nikon. While you're shooting, the module communicates wirelessly with your Bluetooth-capable GPS receiver, and automatically embeds location data into every image you shoot. No extra processing in your camera is required, and your images will all be geotagged in real time.

The device uses minimal amounts of power, and goes into a sleep mode after being inactive for 45 minutes, so you don't have to worry about it wearing your camera's battery down. If you lose your GPS signal, Unleashed will use your last known location (€167; www.foolography.com).—BEN LONG



Eye-Fi Explore X2

Eye-Fi memory cards have built-in Wi-Fi connectivity, which allows you to wirelessly transfer photos from the card to your computer or online services without the need for card readers or wires. The new 8GB Explore X2 card works as a regular SDHC card and comes with 802.11n Wi-Fi, Class 6 read/write speeds, and the ability to share photos directly on Web services like Flickr. It even supports geotagging. Eye-Fi has doubled the number of hotspots its users have free access to by adding Starbucks locations nationwide to its network (\$50; www.eye.fi).

—AAYUSH ARYA



VholdR ContourHD Helmet Camera

The ContourHD is a new kind of helmet camera. Like other helmet cams, it offers a variety of mounts, and comes housed in a self-contained, sturdy casing that will allow it to take a beating and keep on shooting. But the ContourHD adds an extra feature: It records full 720p HD video, with sound. The ContourHD 1080p records 1080p HD video (also with audio), and is especially compelling for people who want the ability to capture still images while engaged in death-defying activities. Using the 1080p model, you can pull very nice, detailed still images from your videos (\$250; www.vholdr.com).—BEN LONG

Gallerie Wrap

You've spent a considerable amount of money on your camera, printer, ink, and paper. So it seems a shame to let the final product—your photo prints—end up buried in a shoebox or hidden in a photo album. Show off your photography skills by mounting those snapshots and hanging them on the wall. The Gallerie Wrap kit from Hahnemuhle is an easy-to-assemble, DIY wrap kit. With it, you can mount your prints and turn them into gallery-worthy art. The kits come in a variety of sizes, and each includes self-adhesive stretching bars, tensioners, and holding pins (\$18; macworld.com/5998).

—HEATHER KELLY



LENSALIGN

When shooting at f/1.8 or wider, even a slight misfocus can wreck your image. Many new cameras include features that let you calibrate your camera's autofocus mechanism. LensAlign is a calibration system that takes advantage of these features to ensure that your lenses are focusing accurately. The rig attaches to your tripod and includes test targets and a mechanism for ensuring that your camera is properly oriented in relation to the calibration targets (\$80 to \$250; www.lensalign.com).—BEN LONG

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CREATE

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First Look: Photoshop CS5

New version brings 64-bit support and a profusion of new features

BY JACKIE DOVE

Just when you thought Adobe could not possibly add anything new to its 20-year-old flagship image editor, along comes Photoshop CS5 and CS5 Extended with a host of improvements that not only promise to make routine tasks easier and faster, but also provide a rich slate of new capabilities. The program's new native 64-bit support (based on Apple's 64-bit Cocoa framework) makes working with large files (over 4GB) practical.

Software upgrades tend to rely on flashy new features, and there's no shortage of them in CS5. But with a mature program like Photoshop, which has long contained the basics and much more, this upgrade promises to usher in new ease of use and improved performance for difficult, tedious, or repetitive tasks. Enhancements to the image editor's warping and painting capabilities, photographic tools, and 3D features are hallmarks of the CS5 release. It's all accomplished with relatively little change to the program's familiar interface.

Image Editing

Changes to Photoshop's image-editing features are profound.

Refine Edge Adobe has revisited the Refine Edge dialog box to include Smart Radius technology to improve the accuracy of edge detection. This feature automatically chooses which selection technique to use with different parts of an image (hair versus a shirt sleeve), based on edge characteristics in different parts of the picture. The Refine Radius and Erase Refinements tools customize masks and selections as you make them, and the color decontamination setting



Painterly Technique Photoshop CS5's Mixer Brush and Bristle Tips offer new ways to turn a photo into a painting. Note the more painterly strokes on the left side of the photo.

eliminates background colors from the edges of the selection.

Content-Aware Fill For years, photographers struggled to remove extraneous elements from their images. Photoshop CS5 offers a higher level of refinement to this task with the new Content-Aware Fill feature. It is designed to remove an object from an image and automatically replace it with the background that would have been there. It uses surrounding elements to detect underlying details so that, to the viewer, the intrusive object never existed. You can use this feature with the Spot Healing Brush, or with the Fill command to replace content in an active selection.

Painting Photoshop CS5 sports new Mixer Brush and Bristle Tip features that offer a painterly way of blending colors. The Mixer Brush lets you define many colors on a single brush tip and then mix

and blend them naturally with colors on the canvas. You can use the Mixer Brush on any photo to create painted effects without adding colors. You can make such images look more creative by controlling settings for wetness, paint load rate, mixing rate, and the state of the brush between strokes.

Bristle tips let you define brush bristle properties such as shape, length, stiffness, thickness, angle, and spacing. You can adjust the bristle tips visually and save your configurations.

Puppet Warp This feature lets you reposition, reshape, and transform any element in your composition. Just click on an image and drop pins (control points) in strategic places to hold those places still. Then click and drag to reposition other parts of the object. Photoshop will adjust the rest of the image to conform to the changes. The

feature works with selections, layers, and whole photos. Use this feature to move body parts of humans and animals into compositions of your choosing.

Photography

On the photography front, watch for advances in lens correction, HDR, and Camera Raw features.

HDR Pro High Dynamic Range imaging combines a group of images with different exposures to create a photo containing the full spectrum of light and shadow. The new HDR Pro feature gives users more control over the merging process, along with adjustment discretion over mapping tones in a combined image.

New algorithms offer better alignment between image files while an automatic deghosting feature fixes problems with subject movement over time. You can save your processing settings as presets and even use the new HDR Toning feature to create a combined-image effect in a single shot.

Camera Raw 6 Version 6 of Photoshop's Camera Raw plug-in supports more than 275 camera models. It also provides enhanced sharpening and noise removal. New controls let you apply vignette styles and film grain as part of the raw workflow.

Automated Lens Correction New lens-correction features remove or correct three of the most common lens-based photographic problems: geometric distortion, chromatic aberration, and vignetting. The program contains both automatic and custom correction settings to fix distortion.



Intelligent Fill The new Content-Aware Fill feature makes it seem as if that unwanted object was never there to begin with. (Note the three poppies on the left and only two on the right.)

Users can download the free Adobe Lens Profile Creator plug-in, from which they can create custom profiles of their lenses.

3D

You can look forward to better 3D performance and workflow.

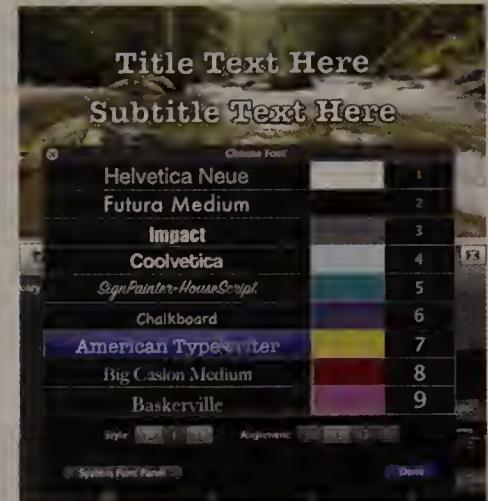
Repoussé Photoshop CS5's Extended version includes a number of 3D improvements. Adobe's Repoussé feature lets you work interactively with a visual dialog box to style your 3D objects. You can use the feature to extrude text for creating logos and 3D artwork. Start with the Create New 3D Object section of the 3D panel to convert a 2D object to 3D. Then use the new Repoussé dialog box to tweak extrusion properties such as depth, scale, bend, shear, inflate, and twist. Adobe CS5 ships with a library of 3D materials and textures you can use to spiff up your images.

Use the 3D Material Drop tool and the Material Load tool to pick a surface and drop it into different meshes on your model, which allows you to sample and apply materials interactively.

Technical Advances The new Ray Tracer engine offers better performance in rendering art with various surfaces. Enhancements to CS5's OpenGL engine hasten delivery of complex 3D geometry to your video card, for a more fluid workflow.

Many More Features

This is a close-up of some of the major new features in Photoshop CS5, but there are many more to look forward to. A full review will run on Macworld.com as soon as shipping software is available.



Fancier Fonts for iMovie '09

BY JEFF CARLSON

iMovie '09 offers several pre-made designs for video titles, from basic centered text to animated concoctions. Just select the title and edit its text to get a slick effect. But you can do more to change text appearance.

iMovie Font Panel Drag a title style from the Titles pane to your project and select the title. In the Viewer, where you edit the text, click the Show Fonts button. The iMovie Font Panel appears.

Here you can switch to one of nine alternate fonts by moving your mouse pointer over a typeface name and clicking it. (Not all titles can be customized.) Dragging left to right over the name previews your movie so you can see how the text appears. Click a color or size number or choose a new style and alignment. Changes are applied to the entire title only, but there are more options.

System Fonts Panel In the iMovie Font Panel, click the System Font Panel button to switch to the standard Mac OS X Fonts panel.

Select some text in your title and pick a new font, choose a different size or color, apply drop shadows, or adjust the kerning or baseline. Click the Action button (the gear icon) below the font list and choose Characters. The system Characters panel appears, where you can now search for arrows, stars, or other symbols.

Backgrounds to Tweet For

Create a single image background for your Twitter account

BY CHRIS MCVEIGH

Twitter offers a set of basic backgrounds, but they're mostly generic and boring. In order to rise above the chatter and stand out from the crowd, you'll want to craft a custom background that complements your character. Here's how to create a single-image background that will get you noticed for both your tweets and your style.

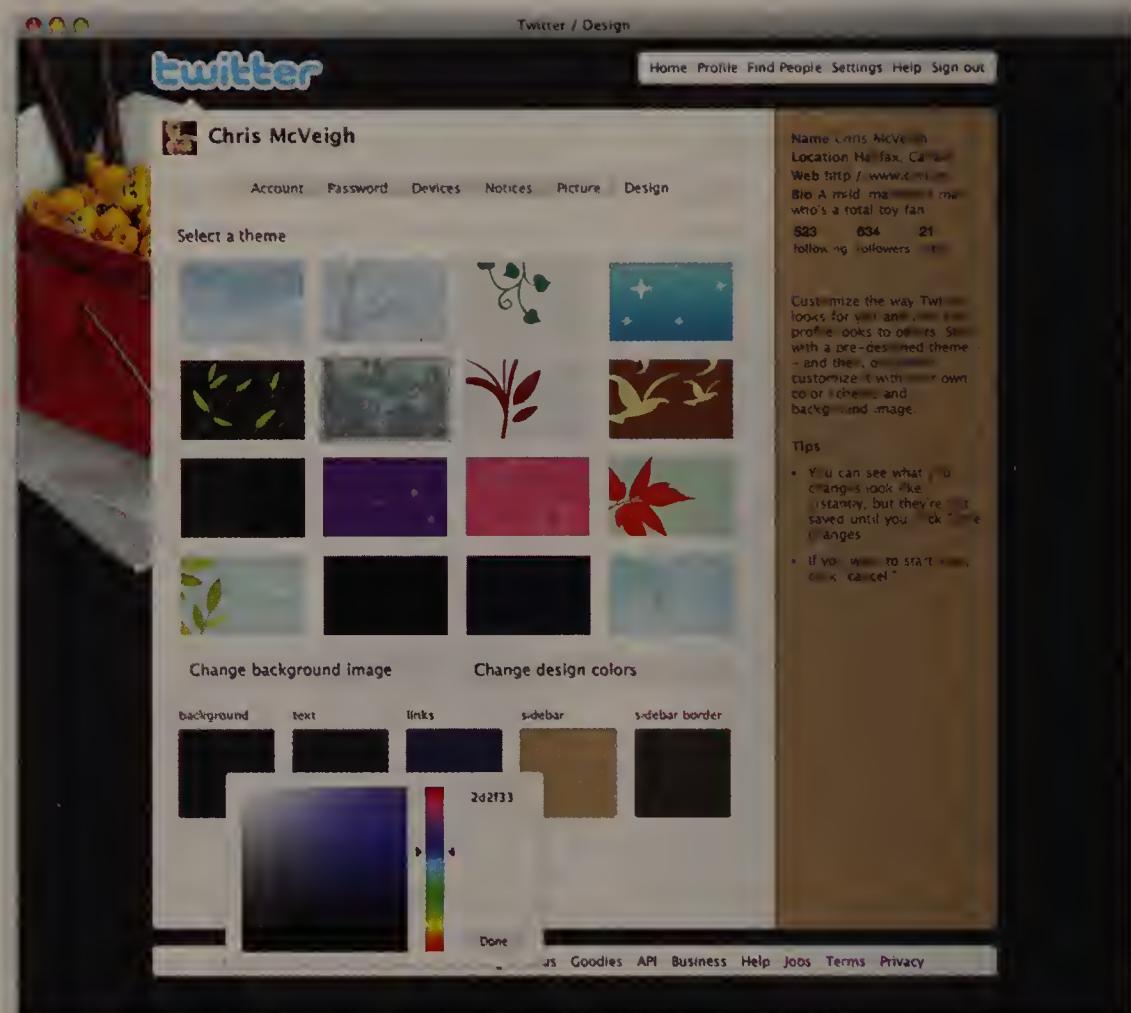
Once you've settled on an idea, you'll need to adapt it to the page layout. Twitter has two visible areas you can design for: the top margin and the left margin. The top margin is smaller and more restrictive due to the masthead and navigation menu, and if you scroll down, the image disappears. The left margin is a better choice for most designs, as there is significantly more viewable area.

A top-left background image should blend seamlessly into the page's background color. For example, I took a photo of a toy and then knocked out (or masked) the background. All areas around the toy are transparent, and the toy image can now be placed on a background of any color. This step is beyond the scope of this article, but have a look at our Masking 101 ([macworld.com/5976](http://www.macworld.com/5976)) article to get you started.

Launch Photoshop CS4 (or any recent version of Photoshop) and the file that contains your masked image. In the Layers panel (Window ▶ Layers) you should see two icons on one layer: one will show a thumbnail of the image, and the other will show a black-and-white thumbnail of the mask. Control-click (or right-click) the mask icon, choose Apply Layer Mask, and then copy the contents of the layer (⌘-A and then ⌘-C).

Now choose File ▶ New. Set a width and height appropriate for your design; for the toy example, I've chosen a width of 350 and a height of 500 pixels. Ensure that Background Contents is set to Transparent and then click OK.

Now paste the masked image into the



Showcase Your Image Create a strong visual impact for your Twitter page by masking the main image and knocking out the background.

document (⌘-V). Resize, rotate, and position the image. Avoid centering the object within the document; instead, offset it to the left so that part of it is out of view. Once the object is in place, you can incorporate text or graphic elements to give the background a bit more flair.

When you're done, follow these steps to export your image:

1. Choose File ▶ Save For Web & Devices.
2. Choose PNG-24 from the Preset pop-up menu.
3. Ensure that Transparency and Convert To sRGB are both checked.
4. Ensure that the projected file size (bottom right) is less than 800KB.
5. Click Save and save the file to your desktop.

Now, go to your Twitter home page and, from the top right menu, click

Settings. Twitter will present you with a series of tabs; to continue, click Design. Here you'll find Twitter's selection of themes. Right below that, you'll find two important links: Change Background Image and Change Design Colors.

Click on Change Background Image. Click Choose File and find the picture you just saved; after selecting it, click Choose. (Don't check the option to tile the background.) Click Save Changes.

You'll need to tweak the page colors. Click on Change Design Colors, then click the color block under Background. Twitter's color picker will appear. Once you've found the right color, click Done. Now, set colors for your text, links, sidebar, and sidebar border; and click Save Changes.

That's it. The new design is locked in. Now it's time to tweet about it!



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SOFTWARE

iZotope Music & Speech Cleaner 1.0

Every so often, you find a tool that solves a real-world problem and you wonder how you got by without it. iZotope Music & Speech Cleaner 1.0 is a powerful, highly effective, and reasonably priced utility that cleans up podcast files and just about any other audio clip without a lot of fuss. iZotope Music & Speech Cleaner, with its intuitive interface, is easy to recommend for anyone who doesn't want to spend a fortune to clean up audio files (macworld.com/5977).

 \$40; iZotope, www.izotope.com

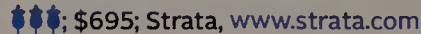
ProDate DV

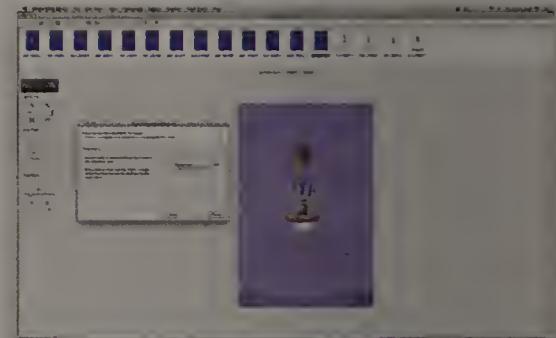
Many digital video camcorders can record the date and time data embedded within the video. That's fine if you want this information to be recorded. But it would be more useful to access this feature only



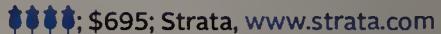
if you wanted to, and not have to record it permanently. ProDate DV, a plug-in for Final Cut Pro, provides a means to display date and time data only when you want it, but it's limited to DV footage. If DV is your format and you need this function, ProDate DV is the only game in town (macworld.com/5978).  \$39; Automatic Duck, www.automaticduck.com

Strata Enfold 3D CX 1.0

Strata Enfold 3D CX 1.0 is a plug-in that allows you to create professionally folded 3D designs directly within Adobe Illustrator. Fully integrated with the rest of the Strata 3D CX Suite, this plug-in lets you design your package in Illustrator and export it to Strata Design 3D CX to texture, light, and render your final images. With its seamless operation, Enfold functionally expands Illustrator, rather than just acting as a typical plug-in or third-party product (macworld.com/5980).  \$695; Strata, www.strata.com



Strata Foto 3D CX 2

Strata Foto 3D CX 2 allows you to generate a 3D model from 2D photographs. Just take a series of photos of an object—you can shoot photos of all sides of the object by hand or on a rotating pedestal. Once you create the model, you can export it and use it in just about any 3D application. While the export function is limited, allowing only VRML or 3DS versions to be saved out, the files do load into other 3D applications. Strata Foto 3D CX 2 is a cool tool for 3D-modeling novices or people who need to create a model of a real-world object quickly (macworld.com/5979).  \$695; Strata, www.strata.com

Top Products

YOUR GUIDE TO THE BEST HARDWARE WE'VE TESTED

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Desktop and Portable

PRODUCT	RATING	PRICE ^	TYPE	FIND CODE ▾
MediaStation 8X External Blu-ray Writer (pictured) www.buffalotech.com		\$300	Blu-ray	5344
d2 DVD±RW w/LightScribe www.lacie.com		\$90	desktop	3900

CAMCORDERS

High Definition

PRODUCT	RATING	PRICE ^	TYPE	FIND CODE ▾
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Vixia HG21 www.canon.com		\$1299	120GB HD	5182

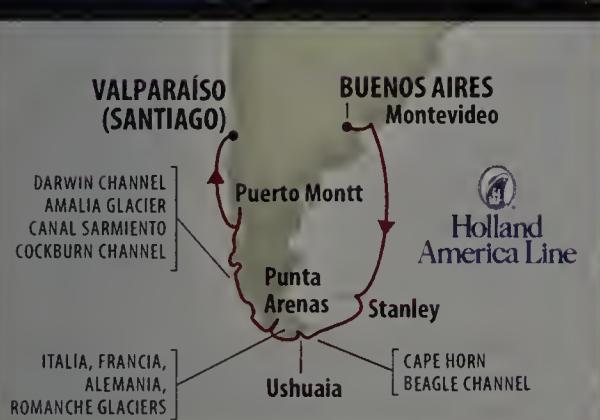
^ All prices are the best current prices taken from a PriceGrabber survey of retailers at press time. In a browser's address field, typing a find code after macworld.com/ takes you to a product's review or overview.

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Mac OS X Hints

The insider tips you won't get from Apple

BY MACWORLD STAFF

Type Accented Characters

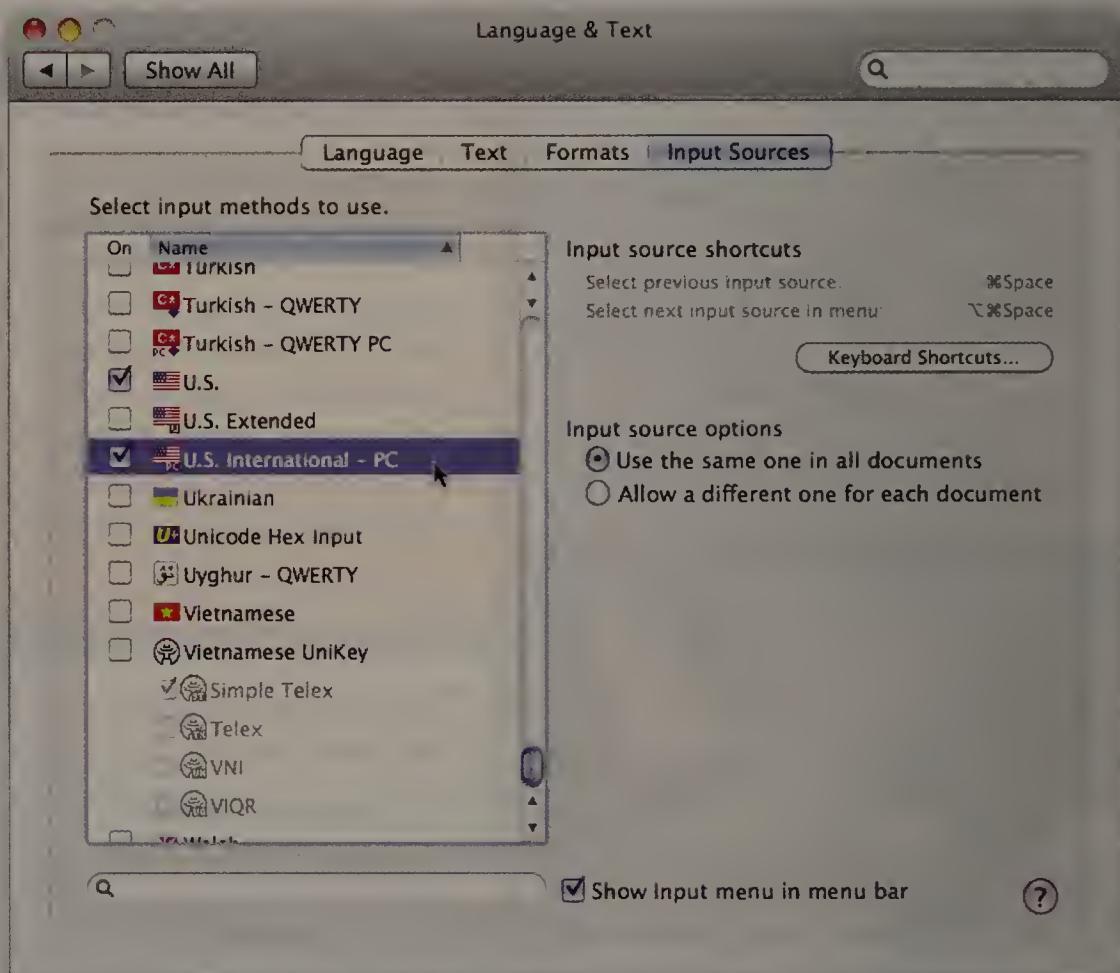
Longtime Mac users know that you can type characters with diacritical marks—for example, à, é, ï, ü, and ñ—by first typing the diacritic (which usually requires the use of the Option key) and then typing the letter. For example, to get ä, you press Option-U (to get the umlaut, or diaeresis) and then press A.

If you can't remember all those key combos, you could use Mac OS X's Keyboard Viewer to figure out which ones do what. But it can be a hassle to summon and then hide the Keyboard Viewer whenever you want a special character. Or you could try PopChar X (popcharx.com; macworld.com/4659), the utility that lets you choose special characters from a drop-down menu; however, it's probably overkill for most users.

An easier way is built right into Snow Leopard (Mac OS X 10.6). Launch System Preferences, open the Language & Text pane, and then open the Input Sources tab. In the list of input methods on the left, scroll down and enable U.S. International – PC. To make it easier to switch to this input method, choose Show Input Menu In Menu Bar.

Have a Hint to Share?

Browse to Macosxhints.com to submit it. This column was based on tips from Macworld senior editor Dan Frakes and anonymous readers. Each month, the author of our favorite tip receives a *Help Desk* mug.



Easier Diacritics To insert accented characters without having to memorize complicated key combinations, enable the U.S. International – PC input method.

That done, when you want to insert a character with a diacritic, choose U.S. International – PC from the Input menu on the menu bar and then create the character by typing a standard punctuation character followed by the letter:

To Get an Acute Accent (')

Type ' (apostrophe) plus the letter; for example, 'e gives you é.

To Get an Accent Grave (`)

Type ` (accent grave, or backtick) plus the letter; for example, `o gives you ò.

To Get an Umlaut, or a diaeresis (")

Type " (quotation mark) plus the letter; for example, "u gives you ü.

To Get a Caret (^)

Type ^ plus the

letter; for example, ^a gives you à.

To Get a Tilde (~) Type ~ plus the letter; for example, ~n gives you ñ.

To type a stand-alone diacritic followed by a vowel *without* creating a character with a diacritic on top of it, follow the diacritic with a space; that will disable the automatic replacement.

End Stuck Time Machine Backups

Ever had Time Machine get stuck—*really* stuck—on a backup? So stuck that clicking Stop Backing Up does nothing, and moving the on/off slider in the Time Machine system preference to Off also does nothing? If so, then try this:

Open Terminal, and run these two commands:

```
sudo service com.apple.metadata.mds
stop
sudo service com.apple.metadata.mds
start
```

Press Return and wait for the prompt to come back after entering each line of code. Those commands stop and restart the process that controls Spotlight; for some reason, that process can cause Time Machine to get stuck. When that process restarts, your stuck Time Machine backup should exit gracefully.

If you use these commands in OS X 10.6, you'll get a message they they've been deprecated (meaning that you're now supposed to use **launchd** to control these services). But the commands above will still work just fine.

Quickly Search Safari Bookmarks and History

If you ever find yourself digging through your browser history to find a Web page you looked at a few days ago (or accidentally closed a few seconds ago), you could use Spotlight instead. But then you'd have to sort through all the other hits a Spotlight search might return. There's another way to search that will find that page more quickly.

Safari has its own "quick search" feature, hidden in an unexpected location. To use it, click on Safari's Help menu (or press **⌘-?** [question mark]) and enter your search term. Instead of searching just Help documents, OS X also searches your Safari history and bookmarks—or, more specifically, the

The Mac OS X Hints Superguide

MacOSXHints.com regularly posts user tips for getting more out of OS X. Our updated Mac OS X Hints Superguide, collects the best tips for Mac OS X 10.6. To find out more, go to macworld.com/5964.



POWER TIP OF THE MONTH

Customize the Root Shell Prompt

In Terminal, you can enter root mode with the **sudo** command; if you have a lot to do as the root user, you can type **sudo -s**, to stay in root mode until you type **exit**.

Problem is, it's easy to forget when you're working in root mode; there's nothing in the shell interface to remind you. One way to remind yourself is to customize the shell prompt so that it tells you you're in root mode. Here's how to do this in the default bash shell.

Using nano, vi, BBEdit, or any other pure text editor, edit the file named **.profile** in your user home directory. (If this file doesn't exist, create it; if you have a file named **.bash_profile** instead, edit that and not **.profile**.)

To set the root prompt, you need to set the variable **SUDO_PS1** in this file. Let's say you'd like the root shell prompt to show your machine name, the current directory, and the current username—when you're in the root shell, that username will be **root**, which is a good reminder. To do that, you'd enter this in **.profile**:

```
export SUDO_PS1="\[\h:\w\] \u\$ "
```

(In a nutshell, **\h**, **\w** and **\u** display the host name, the current directory, and the username; that last one reminds you you're in root.) Save the file and quit the editor. When you run **sudo -s** in a new Terminal window, you should see your changes.

You can, of course, customize the root prompt in other ways. To learn how, read the bash manual (type **man bash** in Terminal). Enter search mode (by typing a forward slash: **/**) and then type **When executing interactively** to go to the section on prompts. There are also extensive tutorials on the Web, just a search away.

If you make a mistake and wind up with an unreadable prompt, open **.profile** again, remove the line you added, save your changes, and open a new Terminal window.

title of each Web page in your History and Bookmarks menus.

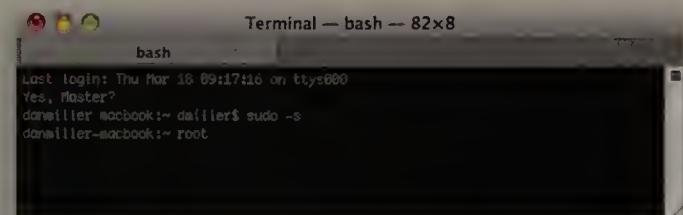
The results of your search appear instantaneously in the Menu Items section of the Help menu—history items first, followed by bookmarks. (Results from Mac OS X Help are listed after that.) Mouse over a result, or use the up and down arrow keys to highlight it, and OS X will show you exactly where in the History or Bookmarks menu the Web page resides. Click the page name—or press Return—to open the Web page in Safari.

This works because the OS X Help system searches the current application's menu commands; since your bookmarks and history items are listed in Safari's menus, they're included in searches. If you want to include Safari's bookmarks

bar in these searches, go to Safari ▶ Preferences, click the Bookmarks tab, and then enable **Include Bookmarks Bar** in the Bookmarks Menu section.

These searches do have their limitations. Queries in Spotlight and in Safari's Bookmarks or History screen search both the title and the content of every Web page; the Help menu searches look only at the title. The Help menu is often too narrow to display a site's entire name (especially if the site is in your history, in which case it will be preceded by the date you visited it). And if you've created bookmark folders outside the bookmarks menu or bar, they won't be searched.

But the Help menu search can be handy when you want to quickly revisit a site or when you accidentally close a tab or window.



Root Reminder Avoid costly mistakes by creating a custom shell prompt for root mode.

Mac 911

Solutions to your most vexing Mac problems

BY CHRISTOPHER BREEN

Archive iPhone SMS Messages

Q: Is there a way to archive iPhone text messages? And is it possible to archive messages from a single sender or to archive all messages received at the end of the day?

Stephen Bolinger

A: Ecamm Network's \$20 PhoneView (macworld.com/4176) lets you copy SMS messages on your iPhone as either a text or an XML file. It can copy all your messages or all or individual messages from a particular sender. Just jack your iPhone into your Mac, launch PhoneView, select Messages in the column on the left side of the PhoneView window, select the messages you want, and click the Copy From iPhone button (see "Take a Message"). This is just one of PhoneView's many talents.

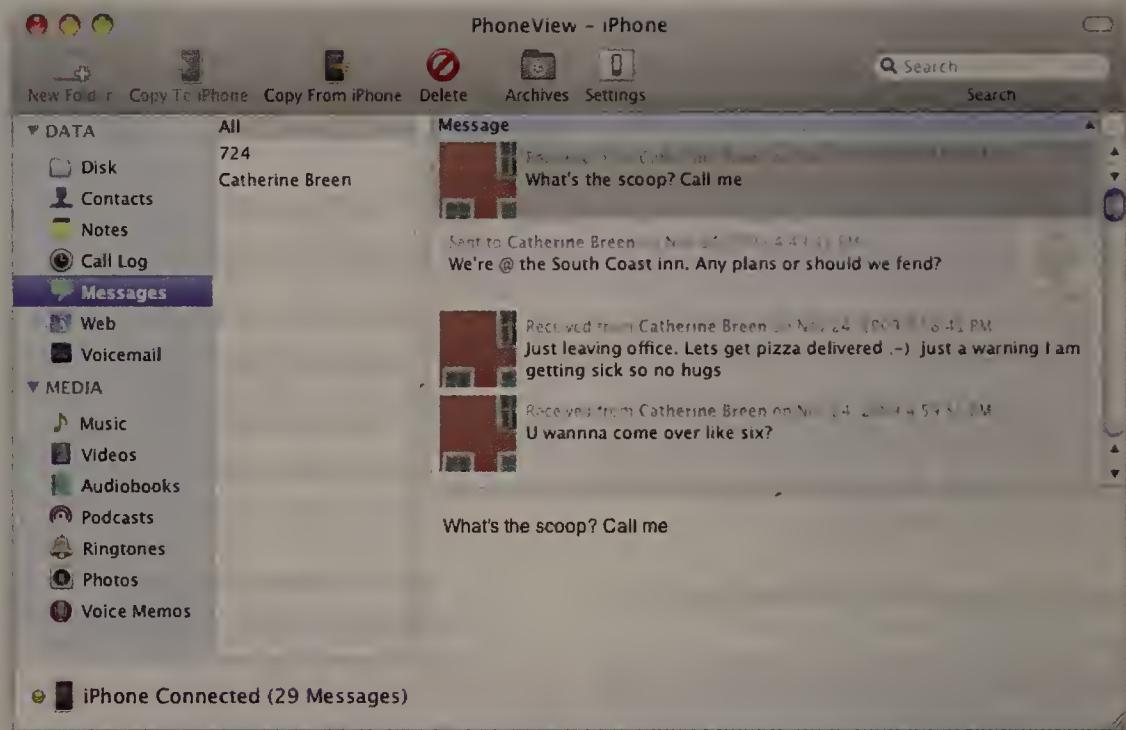
Optionally, you can also copy messages by jailbreaking your phone and copying the SMS SQLite database file to your Mac (that file can be found by following this path: `/var/mobile/Library/SMS/sms.db`). You can read the contents of the file with the open source SQLite Database Browser (sourceforge.net/projects/sqlitebrowser).

Back Up iDisk with Time Machine

Q: How do I back up my iDisk with Time Machine?

Thomas Mayer

A: Open System Preferences, select the MobileMe system preference,



Take a Message PhoneView provides you with the means for copying scads of data from your iPhone.

and click the iDisk tab. At the bottom of the window, click Start in the iDisk Sync area. This will cause a local copy of your iDisk to be created on your Mac.

This local copy is stored as a sparse image bundle, which, if you're running Snow Leopard, you can find on your Mac by moving to your user folder and following this path: `Library/FileSync/IncomprehensiblyNamedFolder` where `IncomprehensiblyNamedFolder` bears a name made up of letters and numbers. Inside this folder is the file you're after: `yourmobileusername_iDisk.sparsebundle`.

Unless you've configured Time Machine to exclude your user folder and its contents, this is where you'll point Time Machine to look for a backup. Note that when you travel back in time and restore this file, you'll be warned that a file with that name already exists and offered a choice to keep the original, keep both, or replace the original. I recommend keeping both.

You'll likely call up your old iDisk because you've lost something from

it between the time of the backup and the current time. If you keep the original, you won't be able to get to your old stuff. If you replace the current sparse image bundle with the old one, your iDisk and Mac will be out of sync and you won't have the files you added since the restore point until they're synced again. If you keep both, you'll have everything you need.

Move the restored file to your desktop, double-click it to mount it, and grab the content you want. Leave the original where it was, remove the text that reads `(original)` that now appears in its name, and your Mac and iDisk can go back to syncing where they last left off.

Where to Store Your Videos

Q: Where is the best place to import and store/organize video? iPhoto or iMovie? And what are the pros and cons to each? Or should I just store video in a separate folder?

Luis Ortiz

Have a Problem?

Go to the Mac 911 forum (macworld.com/2467) for help with your misbehaving Mac or applications.



A: In the interest of being vague rather than wrong, I'll answer this with: *It depends.*

For example, when using a point-and-shoot camera or pocket camcorder such as a Flip MinoHD or Kodak Zi8, I allow iPhoto to import the videos from these cameras (as it will by default). The reason I do is that the Media Browser found in most iLife and iWork applications includes an iPhoto entry (to find these movies, select the iPhoto Videos entry in iMovie's Event Library pane). Select the iPhoto entry, and you'll find all the videos that you've imported into iPhoto.

It's rare that I don't use iMovie to edit videos I've captured with a pocket camcorder, and having them a click away makes it convenient to do so. If I put these clips in a different location, I'd have to use iMovie's File ▶ Import ▶ Movies command, which is less convenient.

However, iPhoto won't import video from an HD or DV camcorder, whereas iMovie will. So in the case of these larger camcorders, iMovie is the way to go. Once clips are imported into iMovie, they're available to the other iLife and iWork applications via the Movies entry in the Media Browser.

The Movies tab of the Media Browser also contains an entry for the Movies folder within your user folder. Select it, and all the compatible movies within that folder are available to your iLife and iWork applications. Also, if you make a habit of always dumping your videos into the Movies folder, there's little chance that you'll forget where they are.

But then you can also add any folder full of movies you like to each application's Media Browser simply by selecting the Movies tab and dragging the folder into the window. In this case, it doesn't much matter where you've stored the original folder.

Ah, but wait—don't forget about iTunes. Using iTunes, you can import compatible videos and then file them as Movies, TV Shows, or Music Videos. As a viewing application, iTunes is hard to beat.

Bugs & Fixes BY TED LANDAU



A Folder-Opening Mystery

Recently, I encountered a folder that would not open when I double-clicked it in List view. If I clicked the folder's disclosure triangle, the folder contents appeared as expected. Similarly, if I shifted to any of the other window views (Icons, Columns, Cover Flow), the folder instantly opened even with a double-click. After the folder failed to open, any further action I attempted within the same window (such as clicking to select another item) failed to work too. Outside the confines of this folder, my Mac behaved normally.

The workaround is as simple as closing the window. When you return to the window, all will be working again (at least until you try to open the problem folder again). The permanent fix is to create a new empty folder and, using any method that gets you access to the problem folder's contents, move the contents to the empty folder. Double-clicking this new folder in List view works—even though it contains the former contents of the problem folder. The now-empty problem folder continues to refuse to open. However, you can deal with this by trashing the folder.

So, to sum up my approach: For importing and storing pocket camcorder and point-and-shoot videos, I recommend using iPhoto. For importing and storing HD and DV camcorder videos, iMovie is your best bet. For movies that you've downloaded from the Web or exported from an application such as QuickTime Pro, use the Movies folder. For viewing movies, use iTunes.

Convert AVCHD Files for iMovie

Q: I have a Sony AVCHD camcorder that I don't always keep at home. I'm wondering if there's a way for me to make a copy of its hard drive that I can use with iMovie.

Lew Finch



Avoid Trouble When Moving Your iTunes Library

As your iTunes Library grows, you may wish to move it to a larger drive. But moving your music files can leave them in a state where iTunes can't find or play them. Here's how to avoid this:

Move only the iTunes Media folder (called the iTunes Music folder on some Macs, found by default in `youruserfolder/Music/iTunes`). All other items in the Music and iTunes folders, such as the iTunes Library and iTunes Music Library.xml files, should be left alone. Rather than directly moving the iTunes Media folder in the Finder, choose the intended new location in the Advanced section of iTunes' Preferences. Then, from iTunes' File menu, choose Library ▶ Organize Library. In the dialog box that appears, select Consolidate Files. This will copy all the files to the new location. If everything works as expected, you can delete the original iTunes Media folder.

Senior Contributor **Ted Landau** is the founder of MacFixIt (www.macfixit.com). Share your problems at bugs@macworld.com or on Macworld.com's Mac 911 forum.

A: iMovie provides a good option in the form of a camera archive. Plug in your camera, click the Open Camera Import Window button, and at the bottom of the resulting window click the Archive All button. This will create a camera archive. To retrieve content from that archive later, choose File ▶ Import ▶ Camera Archive.

iMovie won't allow you to directly import the .mts HD clips stored on the camcorder. However, you can make these clips accessible by wrapping or converting them.

Wrapping them entails shoving the AVCHD content into a .mov wrapper, which iMovie will import and convert to the Apple Intermediate Codec (AIC) format—a format iMovie can use.

Divergent Media's \$50 ClipWrap (www.clipwrap.com) does this. Just drag your .mts clips into the ClipWrap window, select Rewrap in the Output Format pop-up menu, and click Convert. You don't lose any of the quality of the original HD video in the process. (ClipWrap can also convert to other formats, AIC included.)

Another option is ShedWorx's \$40 VoltaicHD (www.shedworx.com/voltaichd). This is a conversion utility that turns these .mts files into AIC QuickTime movies.

One Mac, Two Time Machine Backups

Q: I'd like to have two Time Machine backup drives for my MacBook—one I use at home, and a smaller one for travel. Can I do this easily? Also, I'd like the two volumes to have the same name. Is that possible to do?

Via the Internet

MAC 101

MacBook versus Small Disc

Q: I accidentally inserted a mini CD into my MacBook's media slot. I can't remove it. What should I do?

Via the Internet

A: A Mac's media slot is built only for standard 120mm CDs and DVDs.

Smaller or odd-sized discs can cause problems, as you've learned.

The safest way to handle this is to take your MacBook to an Apple store or other Apple-certified repair facility and let an expert remove the disc. This service won't be covered by your warranty or AppleCare, as you did a known Bad Thing.

If you prefer to tackle the problem yourself, power off the MacBook, turn it so the slot is facing down, and gently shake the computer from side to side. If the "slot fuzz" at the entrance of the slot gets in the way, tamp it down with a business card. There's a reasonable chance that the disc is loose within the drive. With the help of gravity and very gentle persuasion, it might fall out.

A: It can be done easily, and the two volumes can have the same name. To do it, simply attach the drive you'll use at home, open the Time

Machine system preference, click the Select Disk button, and choose the attached drive as the backup destination. Initiate a backup and wait until it's done.



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Now attach the other drive, open the Time Machine system preference yet again, click Select Disk, and choose the new drive as the backup destination. Again, wait for the backup to complete. You now have two identical backups.

Your two Time Machine backups will be out of sync once you do something on your Mac and the next backup completes—the drive you last attached will have the most up-to-date backup.

However, when you plug in the other drive and choose it as the backup destination, it will update the backup from the point where it (that particular drive) last left off, not from the point where Time Machine believes it last backed up the Mac.

There's no great advantage to providing your two drives with the same name. Time Machine uses information other than a device's name to identify it. You could name both of your drives "Backup Drive" and you'd still have to click Time Machine's Select Disk button

and choose the drive you've attached each time you switch drives.

Eject Items without Losing Their Finder Window

Q: In Tiger (Mac OS X 10.4) I could eject disks from Finder windows without the window disappearing, as it does in Snow Leopard. Is there any way to eject disks and volumes without losing the Finder window in Snow Leopard?

Joe Forbes

A: What you're seeing is the expected behavior if you've first selected a drive, volume, mounted disk image, or disc in a window's sidebar and then clicked its Eject icon (see "Select and Eject").

When you select that item, you're telling the Finder that you want to see its contents listed in the open window. When you click the Eject icon, you're unmounting the volume, drive, or disc. The window that displayed its contents

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Snow Leopard

Time Machine

Media

Select and Eject When you click a volume and eject it, its window disappears too.

will disappear right along with it. If it didn't, what would the window display once its host has vanished?

So, the simple trick is this: Don't select the volume, drive, or disc you intend to unmount. Select something else and then click the Eject icon next to the item that you'd like to send to the Great Beyond. Do so and the Finder window stays open.

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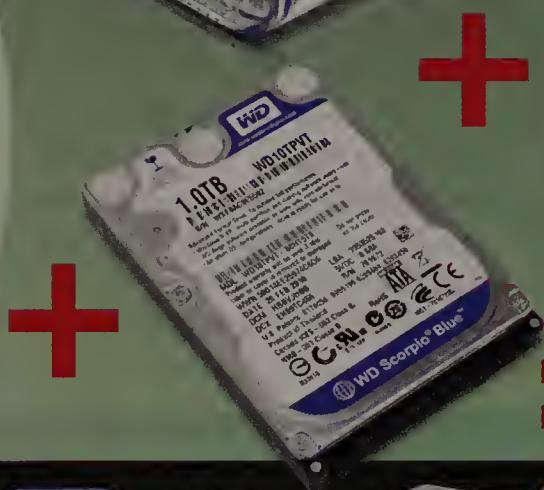
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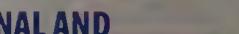
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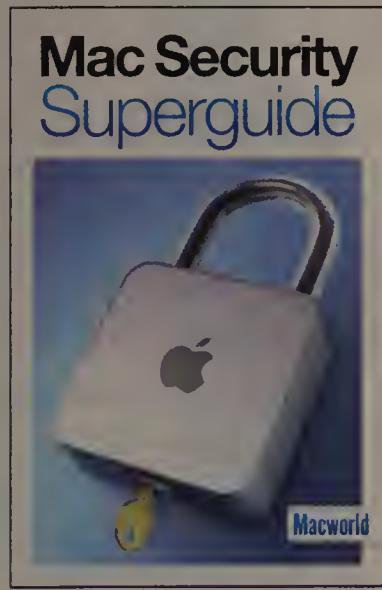
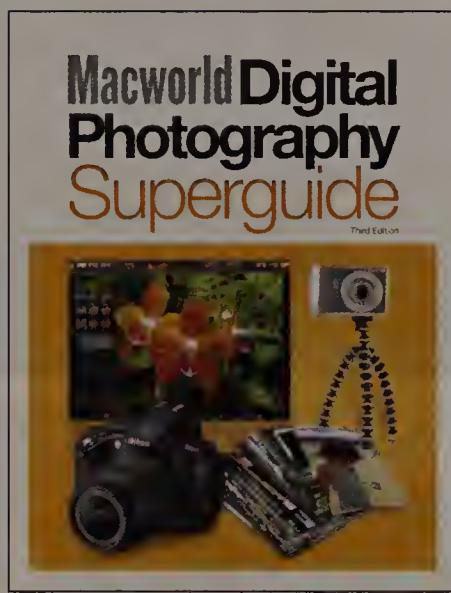
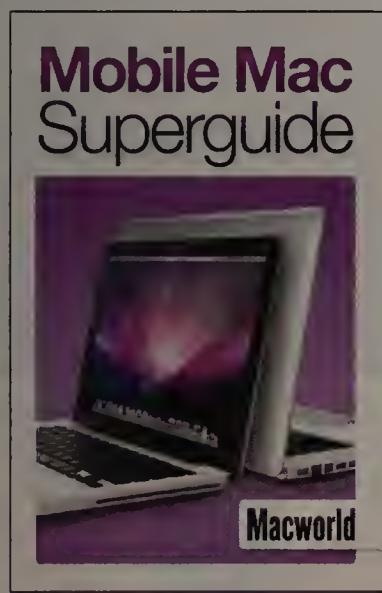
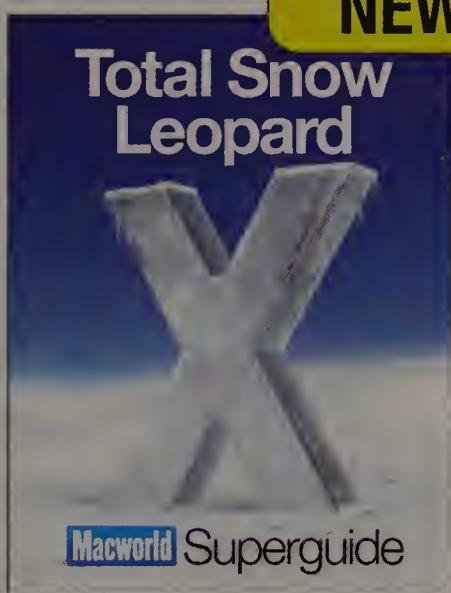
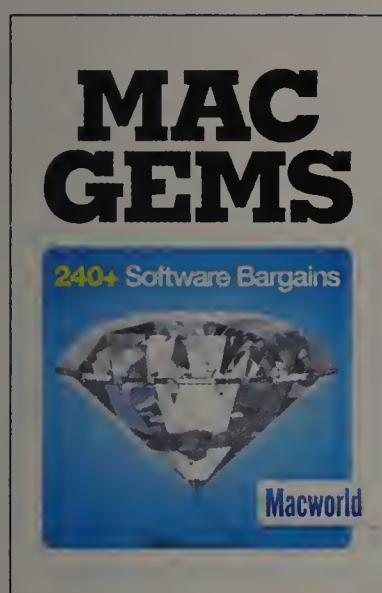
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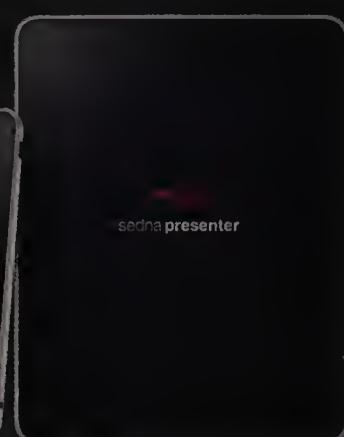
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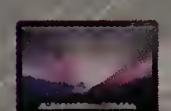
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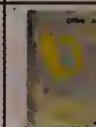
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GRAPHICS THAT...

The iPad: The First Real Computer

Thirty years from now, will we remember the Mac?

I don't have a pundit's drunken courage to say that this first iPad is going to be a smash hit. But I don't think it puts me too far out on a limb to say that we might look back on it in a few decades and say, "Hey, that was the first real computer."

That'll be a gross simplification, of course. Nerds of 2040 will sigh and rattle off any number of previous computers if someone makes that claim. But even those nerds will have to concede that the iPad marked the beginning of appliance computing, when physical devices and interfaces receded into the background and touch gave us an entirely new intimacy with our information.

Open and Closed

The strangest thing about the iPad is that Steve Jobs is still wearing blue jeans. When Jobs and Woz founded Apple over 30 years ago, surely no one thought that we'd be stepping out of the swirling mists of 2010, full-featured computers firmly in our hands, swaddled not in skintight jumpsuits but in Levi's.

Automobiles had been around for 30 years before Henry Ford put together the first Model T. Those previous attempts at a mass-market car were critical to Ford's success, but it's Ford we remember.

The iPad isn't the most capable machine out there. It's not a multi-tasker. It has only a 1GHz processor. It has a closed file system and a closed application market. Despite Apple's claptrap about "HD," the iPad has a low-resolution display. Except for today's relatively inexpensive flash memory, anyone could have built a similar device five years ago for not too much more money.

But the iPad's limitations are also its strength. Because they're uniform across the platform, developers can work with

and around them. The same kind of uniformity has allowed video game consoles to stay competitive with—and sometimes eclipse—more-powerful gaming hardware. The graphics on the Xbox 360 still seem modern because programmers have had five years to learn how to wring every last bit of capability from it.

Uniformity makes the user experience better, too: The Wii isn't a powerful machine, but you can be sure that every single Wii application works on every Wii console. Simply to have a computer—even a relatively low-powered one—that I can always rely on to work is itself revolutionary.

The iPad won't be all things to all people. Those of us who need raw power will still have our Macs and our PCs and our mainframes for years to come. But I think we'll find that dainty two-stroke computers like the iPad are surprisingly versatile. (Did you know

I think we'll find that dainty two-stroke computers like the iPad are surprisingly versatile.



that there's already a video-editing app for the iPhone 3GS? It's not very good, but it works.) As long as these appliances offer us unfettered connections to the Internet, who cares whether or not we have access to the file system?

(I also think Apple should allow third-party software repositories, for people who are willing to risk it. It's like with aftermarket parts for cars: In most states, dealers can void a car's warranty if they can prove an aftermarket part actually damaged the vehicle. I'm all for reliable systems, but it should not be illegal to trade that reliability for freedom if you so choose.)

How Touching

Touch interfaces aren't inherently better than mouse-and-keyboard interaction. They can feel a bit like visiting your data through the glass wall of a prison visitation chamber: You see it through the reinforced glass, but you can't *really* touch it.

But it's surprising how many things touch *does* improve—Web browsing, gaming, manipulation of 3D objects, and on and on. It's to Apple's great credit that it took an interface that had been mangled by half-hearted implementations for years and made it work. And by showing that touch could work, Apple opened up an entire new dimension of interaction with information (much the way Nintendo did with motion on the Wii).

The iPad is a step in the right direction, a step we've waited 30 years to take. I can't wait to see what new things we'll do with it in the decades to come—that is, until the next revolution comes along, the one we'll herald as the *next* first real computer.

Joel Johnson wrote this bio on an iPad and only made about six mistakes. He lives in Oregon.

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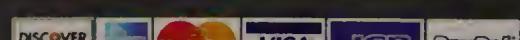
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